

**Ornithological surveys in Ankasa Resource Reserve and
Nini-Suhien National Park, Ghana
(December 2004, December 2009 and August 2010)**

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Table of Contents

ACKNOWLEDGEMENTS	2
SUMMARY.....	2
1. INTRODUCTION	2
2. VEGETATION.....	3
3. THE AVIFAUNA	4
3.1. References and unpublished reports	4
3.2. Ecological considerations	5
3.3. Biome-restricted species	6
3.4. Globally-threatened species	6
3.5. Breeding records	7
4. ANNOTATED SPECIES LIST	9
4.1. Species list.....	9
4.2. Species in need of confirmation or rejected.....	21
5. OBSERVATIONS ON LARGER MAMMALS	22
6. CONSERVATION ASPECTS.....	23
7. REFERENCES	23
APPENDIX 1. ITINERARY AND TIMETABLE.....	24
APPENDIX 2. POTENTIAL OF ANKASA FOR BIRD ECOTOURISM	25
CHECKLIST OF THE BIRDS OF ANKASA R.R. AND NINI-SUHIEN N.P.	26

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Summary

Ankasa Resource Reserve (343 km²) and adjacent Nini-Suhien National Park (160 km²) are the only Wildlife Reserves protecting wet evergreen rain forest in Ghana. The forest is in good condition. In three visits (27 December 2004-1 Jan 2005, 16-26 December 2009 and 17-22 August 2010), mostly in Ankasa R.R., we recorded some 178 species. Several short or medium-long surveys have been carried out in Ankasa in the past, but critical examination of previous lists has revealed a number of likely misidentifications, or typing errors. We present a list of 206 accepted species (with 144 Guineo-Congolian biome species).

As the forest is mainly unbroken, with a closed canopy, several species characteristic of this type of forest are more common (or less uncommon) here than elsewhere in Ghana, especially Rufous-winged Illadopsis *Illadopsis rufescens* and Yellow-bearded Greenbul *Criniger olivaceus*. These are two of the 10 species of conservation importance that are confirmed to occur; others such as the Yellow-casqued Hornbill *Ceratomygma elata* are also fairly common. Rufous Fishing Owl *Scotopelia ussheri* is known from at least the Ankasa river. There are a few recent records of White-breasted Guineafowl *Agelastes meleagrides* but reports of Shelley's Eagle Owl *Bubo shelleyi* require confirmation.

Species of special interest include the little-known Grey Ground Thrush *Zoothera princei*, for which Ankasa is only one of two localities known, apart from two specimens collected in south-west Ghana in the 19th century. Ankasa is also important for Hartlaub's Duck *Pteronetta hartlaubi*, a species threatened elsewhere in south-west Ghana, and Dusky Long-tailed Cuckoo *Cercococcyx mechowi* is common.

1. INTRODUCTION

Ankasa Resource Reserve (343 km²) and Nini-Suhien National Park (160 km²), to the north, protect contiguous blocks of evergreen rain forest in the extreme south-west of Ghana, close to the international border with Côte d'Ivoire. The Suhien river forms the boundary between the Reserve and the Park, while the Ankasa river rises within the Resource Reserve and flows out of it at the Ankasa entrance gate. Both rivers are a few to 15 or so metres wide; the Suhien is faster-flowing, locally forming rapids around low rocks. Nkwanta camp, 8 km inside the Reserve from the Ankasa gate, or Exploration camp, one km south of Nkwanta, is a good base for exploring the area. Nkwanta was the site of a village, now deserted: small Palm plantations (Coconut and Oil Palm) and extensive clumps of exotic Bamboo *Bambusa vulgaris* are obvious signs of previous human occupation. A little logging also took place near Nkwanta, but this stopped in the 1970s. The Reserve is crossed by a power-line from east to west. Nini-Suhien N.P. has never been logged.

A major change since our first visit in 2004 is the recent opening of a new road roughly following the power-line and crossing the Suhien river about 8 km from Nkwanta. This is to facilitate access to guards' camps on the north-eastern side. It is about 10 m wide, cutting through forest and swamps. It was not finished by the time the latest European-funded PADP project was completed in 2009: contractors worked behind schedule, and the road had become partially impassable in the rains of 2010 (in the absence of drainage ditches, rain water has started to erode the middle of the road, which is also very slippery). The old path reaching the Suhien river from Nkwanta has not been maintained for tourists. So we did not see the Suhien river in 2009-10, as it takes

much longer to reach it by walking on the new road. Parts of the road between Ankasa gate and Nkwanta are damaged by construction lorries and flooded in places, making walking almost impossible. The Elubo track (linking Nkwanta via the Exploration camp to Elubo camp on the western boundary) is not used by vehicles thus is fairly undisturbed. It is maintained in reasonable condition and is ideal for bird and mammal watching.

On our first visit our time was shared between the forest around Nkwanta (5°17'N, 2°38'W), and around the Suhien river (5°18'N, 2°36'W) at the boundary of Nini-Suhien N.P., reached by a path from Nkwanta. In 2009 and 2010 we spent most of our time in the area of Exploration camp (close to Nkwanta), along the Elubo trail and the start of the new road, with a few days also near Ankasa gate (5°13'N, 2°39'W) — further details in Appendix 1. In 2009-10, RJD erected a few mist-nets near Exploration camp and (briefly) also in Aug 2010 near Ankasa gate. Birds were ringed and examined for evidence of breeding and moult.

Previous published or unpublished surveys include those of Dutson & Branscombe (1990) who visited for one month in August-September 1988, Holbech (1996) for two months in 1993, Dyer (1997) for 6 days in November 1997, and R. Demey and colleagues (*in litt.*) for a week in October 2004. In 2008, Robert Ntakor and Mark Williams (Ashanti Tours) started visiting the forest and brought ecotourists from 2009. Nik Borrow (Birdquest leader) started taking clients in 2009, and there have been a few other visits (as by Phil Gregory in 2009). Our combined trips have produced several new species records since 2004 (Dowsett-Lemaire & Dowsett 2005).

December marks the start of the dry season: in 2004 the weather was mostly clear but humid, with one big storm on 29 December. In 2009 we experienced two short storms (21-22 December) and occasional drizzle overnight. August is in the middle of the rainy season, but may coincide with the “short dry season”: in 2010 there was heavy rain on the 17th (midday and afternoon), occasional drops, drizzle or brief showers on 18-20, but very heavy rain again on the 21st (from 10-14h30, 16h30-17h), and more drizzle at night and the next morning.

2. VEGETATION

Hall & Swaine (1976) have classified the forest at Ankasa as “wet evergreen rain forest“. Rainfall is at least 2000 mm p.a. (but there is no rain gage locally); it is about the wettest spot in Ghana. Detailed information on the flora can be found in Hawthorne (1998), but this excellent report disappeared from the Wildlife Division library in Accra before we could read the section concerning Ankasa. Hawthorne & Abu-Juam (1995) attribute “Condition 1” to Nini-Suhien (meaning excellent, with under 2% signs of human disturbance) and “Condition 2” to Ankasa R.R. (good, less than 10% heavily disturbed).

Characteristic trees of wet evergreen forest include *Heritiera utilis*, *Lophira alata* and *Sacoglottis gabonensis*. Along the new road north of Nkwanta, the tallest trees reach 35-45 m (*Klainedoxa gabonensis*, *Lophira alata*, *Parkia bicolor*, *Piptadeniastrum africanum*). *Lophira* is common, Caesalpiniaceae include *Cynometra ananta* (in August some trees were renewing foliage, flushed with red, others were flowering), *Calpocalyx brevibracteatus*, *Erythrophleum ivorense* (both in fruit, August), *Berlinia* sp. and *Anthonota fragrans*. Along the Ankasa river, *Carapa procera*, *Gluema ivorensis* (regenerating actively), *Heritiera utilis*, *Lophira*, *Pellegriniodendron diphyllum*, *Pentadesma butyracea* and *Uapaca guineensis* are all common, with also *Irvingia gabonensis* (with sweet fruits), *Lovoa trichiloides*, *Parkia bicolor* and *Petersianthus macrocarpus*. *Protomegabaria* is common in water-logged sand (as behind Nkwanta’s bamboo plantations). In the densest sections of forest, there is a closed subcanopy at heights of around 25-30 m; the canopy is rather disturbed in sections along the Elubo and Ankasa tracks, with locally many *Musanga* and some *Cecropia*.

The transmission line creates an artificial clearing with low secondary thickets; the swamps crossed by the new road have some open water, with beds of *Thelypteris* ferns and the arum *Cyrtosperma senegalense* (now *Lasimorpha senegalensis*), and waterlilies. The tree *Hallea* (ex-*Mitragyna*) *ledermannii* is dominant in some depressions; large dead trees may provide nesting ground for Hartlaub’s Duck.

Secondary growth around the old village of Nkwanta has been noticeably closing up between our first and last visits. The old path from Nkwanta to the transmission line crosses strips of muddy *Raphia* forest, then passes by a stream and a small dam where trees have been flooded (this path has not been maintained for tourists recently). This is where a few waterbirds used to be encountered, such as African Jacanas *Actophilornis*

africanus and Hartlaub's Ducks *Pteronetta hartlaubi*. Beyond the power-line, the path used to continue into tall primary forest until it reached the Suhien river: the river is 10-15 m wide in this area. It is fast-flowing and forms rapids or small waterfalls locally. The Ankasa river near the gate is also fairly wide but more tranquil.

The presence of large clumps of exotic Bamboo *Bambusa vulgaris* has been claimed as having a high appeal for tourism (by Dyer 1997, and Briggs 2004 among others). Thus Briggs (p. 203) writes "fantastic stand of bamboo forest often referred to as the bamboo Cathedral", and Dyer (1997: 37): "magnificent stand...forming ...a cathedral-like, vaulted canopy. This feature alone marks Nkwanta as a site of special interest in the Reserve". Yet these are exotic, invasive plants brought by man, and represent a complete ecological desert. If there is anything striking about this plantation at Nkwanta it is the sudden silence as soon as one enters this "cathedral". No birds or insects can survive in this artificial habitat and it should be eliminated.

3. THE AVIFAUNA

3.1. References and unpublished reports

Dutson & Branscombe (1990) surveyed the forest from 16 August-15 September 1988, dividing their time between the forest edge at Ankasa, the Nkwanta area, and primary forest near the Suhien river (at the boundary between the Park and the Reserve). This was on an expedition from Cambridge University, suggested and supported by ICBP (now BirdLife International). The authors had no preliminary African experience and mention their inability or difficulty in identifying several groups of birds (such as *Andropadus* bulbuls, *Illadopsis* babblers, cuckoos on calls). They recorded about 127 species inside the Reserve or Park, but some observations require confirmation. In particular, we have chosen to leave out records of some uncommon or unlikely species when they have not been confirmed subsequently.

Holbech (1996) carried out intensive surveys for two months in Ankasa R.R. between 11 September 1993 and 7 January 1994. This was part of his PhD studies in the forests of south-west Ghana. Methods used were transects combined with mist-netting. Aerial species (swifts and swallows) were not considered; he otherwise recorded 102 species. Some of his results have been published (Holbech 2005). A few errors and many omissions exist. For instance his lack of records of the common barbet *Buccanodon duchaillui*, apalis *Apalis nigriceps*, sunbird *Anthreptes collaris* and starling *Lamprotornis splendidus* is difficult to explain. He has almost no transect records of the very common sunbird *Deleornis fraseri* (a single one in two months), a species we encountered daily in all large bird parties. It is probable that he mistook the song of *B. duchaillui* for that of *Gymnobucco calvus*, as Chappuis (2000 and in his first edition in 1981) mistakenly presented the West African dialect of this barbet under the wrong species. Borrow & Demey (2001, 2004) correctly describe the song of this barbet in West Africa as "a series of 7-10 accelerating *oop* notes"; the fast "*prurrrr*" presented by Chappuis (1981, 2000) under *B. duchaillui* is correct but is heard only in the eastern part of its range, from Central Africa eastwards. R. Demey (*in litt.* 2004) wrote about this species at Ankasa: "The most frequently heard barbet, with up to 20 on a single day. The song was once more confirmed to consist of an accelerating series of *oop* notes, erroneously presented as a song of *Gymnobucco calvus* by Chappuis (2000)." Holbech has no transect records in two years of field work in south-west Ghana, although the bird is common throughout the evergreen rain forest zone: his only records are from birds he captured in mist-nets at two of 15 localities (Holbech 1996, 2005). That he captured so few is no doubt due to the fact that this bird spends most of its time above the level of mist-nets.

Oriolus nigripennis is rare in the extreme south-west corner of the rain forest zone but is common from Boin River and Subri River Forest Reserves north and eastwards. Holbech (1996, 2005) did not record any. Many observers experience difficulty in distinguishing between the two forest orioles (*O. nigripennis* and *O. brachyrhynchus*), but at least something to the effect that only one species was "counted" because of identification problems should have been mentioned. Other problematic groups in Holbech's work include *Illadopsis* babblers: he had as many as 58 transect counts of *Illadopsis fulvescens* but identified none in his nets, compared to only 3 transect counts of *I. rufipennis*, a bird which frequently turned up in his nets (total of 55 netted). Of the two glossy starlings he has generally missed the common, ubiquitous *Lamprotornis splendidus*; *L. cu-preocauda* is the only one he has supposedly encountered (32 times) at Ankasa. Other species surprisingly ab-

sent from his Ankasa list include several other sunbirds, flycatchers, two of the four malimbe *Malimbus* spp. present, and several raptors. Although the Crowned Eagle *Stephanoaetus coronatus* could be missed on a short visit, the noisy and spectacular daily displays of this eagle make it particularly noticeable, over an area of several km².

Dyer (1997) spent 6 days in Ankasa R.R. and Nini-Suhien N.P. in November 1997, during which he recorded 78 species (listed in Appendix 8-10). Dyer (1997: Table 1) attempted to present an overall list including past records (taking into account Dutson & Branscombe 1990 and Holbech 1996), but his Table includes some records unsupported by a source, which may be largely the result of typing errors. He also included in this list several farmbrush species which previous authors had not found inside the Ankasa Reserve, but in farms or clearings outside.

R. Demey (*in litt.* 2004) visited Ankasa for a week from 7-14 October 2004. Despite the fact that he spent most of his time teaching birds to other people, he recorded about 140 species. He was accompanied by L.D.C. Fishpool for the first three days.

A. Hester (*in litt.* 2005) paid two brief visits to Ankasa on 4-5 November 2004 and 3-4 June 2005, when he recorded 100 species. Ashanti Tours (Mark Williams, Robert Ntakor and others, pers. comm.) and Nik Borrow (Birdquest) started visiting Ankasa in December 2008 and April 2009 respectively and produced several records of interest. P. Gregory visited in December 2009 and several others groups in 2011.

Finally, Ntiamoa-Baidu *et al.* (2001) include Ankasa R.R. and Nini-Suhien N.P. as an Important Bird Area. No details are given of their own field work there. They list 106 Guineo-Congolian species, having overlooked 9 species listed in Holbech (1996), which they include as a reference. Several of the species they overlooked are in fact quite common, e.g. *Himantornis haematopus* and *Stizorhina (Neocossyphus) fraseri*. Some of their records of rare species need to be treated with caution since the sources are unknown.

3.2. Ecological considerations

There are a number of striking differences between the avifauna of closed-canopy evergreen rain forest and that of open-canopy semi-evergreen forest. Comparing the annotated lists for Ankasa with those of Bia/Krokosua/Ayum and other semi-evergreen forests is instructive: the parrot *Poicephalus gularis* is common in semi-evergreen forest but absent from Ankasa, where replaced by *Psittacus erithacus* (much more localized in semi-evergreen forest to the north); the serpent eagle *Dryotriorchis spectabilis* is much commoner in semi-evergreen forest where it can find suitable clearings or gaps for hunting; the wood hoopoes *Phoeniculus castaneiceps* and *P. bollei* are also much commoner in semi-evergreen forest, as are other species of open canopy (the starling *Onychognathus fulgidus*, the weavers *Ploceus tricolor*, *P. albinucha*, *Malimbus rubricollis*); the batis *Batis poensis* is very rare at Ankasa but is common in most of the semi-evergreen forests and the flycatcher *Muscicapa tessmanni*, common at mid-levels in semi-evergreen forests, is as yet unrecorded from Ankasa, like the canopy warbler *Hyliota violacea* and tit *Parus funereus*. *Erythrocerus mccallii* is generally common (around small gaps) in semi-evergreen forest; there are very few records from Ankasa. Species of moist tangles under broken canopy (e.g. *Illadopsis fulvescens*, the flycatchers *Myioparus griseigularis*, *Trochocercus nitens*) are much commoner in semi-evergreen forest than at Ankasa, and warblers such as *Macrosphenus kempfi* and *Camaroptera superciliaris* commonly penetrate the forest at Bia and elsewhere whereas they remain on margins at Ankasa (where the *Macrosphenus* is particularly rare). The bulbul *Phyllastrephus albigularis* appears absent from Ankasa but is very common in semi-evergreen forest, more so than *P. icterinus*. Of the cuckoo-shrikes, both species of the canopy, *Coracina azurea* is more common outside Ankasa and *Campephaga quiscalina* is absent from Ankasa, being often common in broken canopy in semi-evergreen forest, especially in the uplands (Tano Offin, Atewa).

By contrast, species of mature forest under dense canopy are more common at Ankasa (e.g. *Halcyon badia*, *Phyllastrephus icterinus*, *Illadopsis rufipennis*, *Dicrurus atripennis*); some are as yet unrecorded from Bia (*Campethera caroli*, *Criniger olivaceus*). The barbet *Buccanodon duchaillui*, very common at Ankasa (east to Atewa and Worobong South, south to Cape Three Points, north to Tano Offin), appears absent from the drier types of semi-evergreen forest (including Bia, Ayum and Bobiri).

Ankasa has some wide streams that attract a specialized avifauna: the swallow *Hirundo nigrita* (albeit

rare, only one record) and the flycatcher *Muscicapa cassini* in particular require wide rivers in the forested region, hunting low over sun-exposed water. The reserve is crossed by a system of permanent swamps, some of large size. These are especially good for the duck *Pteronetta hartlaubi*.

3.3. Biome-restricted species

The number of Guineo-Congolian species present (c. 144) is comparable to that recorded in other big forest blocks (e.g. Atewa, Bia, Kakum): *Tigriornis leucolopha*, *Bostrychia rara*, *Pteronetta hartlaubi*, *Dryotriorchis spectabilis*, *Accipiter erythropus*, *Urotriorchis macrourus*, *Francolinus lathamii*, *F. achantensis*, *Agelastes meleagrides*, *Himantornis haematopus*, *Canirallus oculus*, *Sarothrura pulchra*, *Columba unicincta*, *C. (delegorguei) iriditorques*, *Turtur brehmeri*, *Psittacus erithacus*, *Tauraco macrorhynchus*, *Cercococcyx mechowi*, *C. olivinus*, *Chrysococcyx flavigularis*, *Centropus leucogaster*, *Otus icterorhynchus*, *Bubo leucostictus*, *Scotopelia ussheri*, *Glaucidium tephronotum*, *Caprimulgus binotatus*, *Telacanthura melanopygia*, *Rhaphidura sabini*, *Neofrapus cassini*, *Apus batesi*, *Alcedo leucogaster*, *Ceyx lecontei*, *Halcyon badia*, *Merops muelleri*, *M. gularis*, *Eurystomus gularis*, *Phoeniculus castaneiceps*, *Tropicranus albocristatus*, *Tockus hartlaubi*, *T. camurus*, *T. fasciatus*, *Bycanistes fistulator*, *B. cylindricus*, *Ceratogymna atrata*, *C. elata*, *Gymnobucco calvus*, *G. peli*, *Bucanodon duchaillui*, *Pogoniulus scolopaceus*, *P. subsulphureus*, *P. atroflavus*, *Tricholaema hirsuta*, *Trachyphonus purpuratus*, *Prodotiscus insignis*, *Indicator maculatus*, *I. exilis*, *Campethera maculosa*, *C. nivosa*, *C. caroli*, *Dendropicos gabonensis*, *Thripas pyrrhogaster*, *Smithornis rufolateralis*, *Psolidoprocne nitens*, *Hirundo nigrita*, *Coracina azurea*, *Andropadus gracilis*, *A. ansorgei*, *A. curvirostris*, *Calyptocichla serina*, *Baeopogon indicator*, *Ixonotus guttatus*, *Thescelocichla leucopleura*, *Phyllastrephus icterinus*, *Bleda syndactylus*, *B. eximius*, *B. canicapillus*, *Criniger barbatus*, *C. calurus*, *C. olivaceus*, *Nicator chloris*, *Neocossyphus poensis*, *Stizorhina fraseri finschi*, *Zoothera princei*, *Alethe diademata*, *Stiphornis erythrothorax*, *Sheppardia cyornithopsis*, *Erythropygia leucosticta*, *Eremomela badiceps*, *Sylvietta virens*, *S. denti*, *Macrosphenus concolor*, *M. kempi*, *Hylia prasina*, *Apalis nigriceps*, *A. sharpii*, *Camaroptera superciliaris*, *C. chloronota*, *Fraseria ocreata*, *F. cinerascens*, *Muscicapa olivascens*, *M. cassini*, *M. epulata*, *M. comitata*, *M. ussheri*, *Myioparus griseigularis*, *Megabyas flammulatus*, *Batis poensis*, *Dyaphorophya castanea*, *Erythrocerus mccallii*, *Elminia nigromitrata*, *Trochocercus nitens*, *Terpsiphone rufiventer*, *Illadopsis fulvescens*, *I. cleaveri*, *I. rufescens*, *Pholidornis rushiae*, *Anthoscopus flavifrons*, *Deleornis fraseri*, *Anthreptes rectirostris*, *Nectarinia seimundi*, *N. cyanolaema*, *N. adalberti*, *N. minulla*, *N. johannae*, *N. superba*, *Oriolus brachyrhynchus*, *O. nigripennis*, *Dryoscopus sabini*, *Malakonotus multicolor*, *Prionops caniceps*, *Dicrurus atripennis*, *D. (adsimilis) modestus*, *Onychognathus fulgidus*, *Lamprotornis cupreocauda*, *Ploceus tricolor*, *P. albinucha*, *Malimbus nitens*, *M. malimbicus*, *M. scutatus*, *M. rubricollis*, *Parmoptila rubrifrons*, *Nigrita bicolor*, *N. fusconotus*, *Spermophaga haematina*. The turaco *Corythaeola cristata* may be added as a Guineo-Congolian near-endemic.

The eagle *Spizaetus africanus* and owl *Bubo poensis* are no longer considered as Guineo-Congolian, as they were found to occur in Tanzanian mountains; the honeyguide *Indicator willcocksii* extends too far into the Sudanian biome to be included in the above list. A few more species are likely, especially *Bubo shelleyi*, but for reasons given in the annotated list, its occurrence requires confirmation.

3.4. Globally-threatened species

Ten species in this category are concerned (following BirdLife International 2008), but much remains to be learned about them:

White-breasted Guinea fowl *Agelastes meleagrides* ("Vulnerable") has been seen and even photographed in recent years, but an evaluation of its population (location and size of groups, territory size etc.) needs to be carried out;

Grey Parrot *Psittacus erithacus* ("Near Threatened") still exists in small numbers in Ankasa, but trapping of wild birds for trade persists in SW Ghana and numbers overall continue to decrease;

Rufous Fishing Owl *Scotopelia ussheri* ("Endangered"). This owl is more widespread in south-west Ghana than was hitherto believed, and its status should probably be amended to "Vulnerable".

- Brown-cheeked *Bycanistes cylindricus* and Yellow-casqued Hornbills *Ceratogymna elata*: these two frugivorous hornbills are in the category “Near Threatened”, but only the Yellow-casqued appears to be common;
- Green-tailed Bristlebill *Bleda eximius* is still rated as “Vulnerable” (BirdLife website, Dec 2010), even though several observers including ourselves have pointed out that this bulbul is very widespread in the Upper Guinea forest block and is locally common; its status should be downgraded to “Near Threatened” and it is certainly common in Ankasa;
- Yellow-bearded Greenbul *Criniger olivaceus* (“Vulnerable”) is much more localized in SW Ghana than last species; it is fairly common in Ankasa, one of its strongholds in Ghana, perhaps the main one in the country;
- Rufous-winged Illadopsis *Illadopsis rufescens* (“Near Threatened”) is fairly common in Ankasa; it is very localized elsewhere in SW Ghana, with another important population in upland semi-evergreen forests (especially the Tano Offin plateau and north-east extensions to Opro River and Afram Headwaters Forest Reserves). The latter population is critically endangered by wide-scale forest destruction by farmers and foresters;
- Copper-tailed Glossy Starling *Lamprotornis cupreocauda* (“Near Threatened”) is another Upper Guinea endemic with a wide distribution in SW Ghana; it is fairly common in Ankasa;
- Red-fronted Antpecker *Parmoptila rubrifrons* has recently been designated as “Near Threatened” (BirdLife International 2008). This Upper Guinea endemic is an inhabitant of mature forest, its distribution in SW Ghana (which extends to Kakum and Atewa, but not to Bia) is known mainly from mist-netting surveys, as it is very discreet outside the breeding season.

An eleventh species, Shelley’s Eagle Owl *Bubo shelleyi* (“Near Threatened”) likely occurs in Ankasa, but confirmation is needed.

Although not listed as a Globally-threatened species, Grey Ground Thrush *Zoothera princei* is barely known in SW Ghana and there are very few records anywhere in West Africa. This is surely a candidate for the “Data Deficient” category. Two specimens were collected in the 19th century (at “Denkera” and Aburi, Banerman 1936); there is virtually no forest left on the Aburi plateau. There is only one other recent record in the country, in Atewa Range (August 2010, FD-L), of a bird calling about 10 times at close range (the sharp, distinctive “srrrree” call of the genus).

3.5. Breeding records

A few records by other observers have been included. The names of main contributors are abbreviated as follows: D&B (Dutson & Branscombe 1990), RD (R. Demey *in litt.*), RN (R. Ntakor pers. comm.).

Hartlaub’s Duck *Pteronetta hartlaubi*. One adult apparently brooding inside nest-hole (in dead trunk), 20 Aug 2010. D&B had seen 7 downy chicks on 11 Sep 1988 (thus from eggs laid Aug); 6-8 chicks in large swamp (new road) in Nov-Dec 2011 (D. Hoddinott, A. Riley).

Palm-nut Vulture *Gypohierax angolensis*. One adult sitting on a nest in a tall *Ceiba* (watched for more than 40 minutes, thus probably incubating eggs), 20 Dec 2009. There was a similar, older nest in the vicinity.

Long-tailed Hawk *Urotriorchis macrourus*. Immature calling persistently about 1.5 km from Ankasa gate (road to Nkwanta) on 25 Dec 2009 (and adult singing in same area late afternoon). Immature calling near Lophira trail on 22 Aug 2010.

Blue-headed Wood Dove *Turtur brehmeri*. Male courting mate on a track, 18 Dec 2009.

Woodland Kingfisher *Halcyon senegalensis*. Female tapping inside nest-hole and throwing out debris, 20 Aug 2010, closely attended by male. Judging by size of hole and behaviour of male, probably soon to lay.

Yellow-spotted Barbet *Buccanodon duchaillui*. D&B saw one entering a suitable nest-hole 30 m up in the top of a dead tree (Ankasa), 20 Aug 1988.

Cassin’s Honeybird *Prodotiscus insignis*. An immature fed by Green Hylia, late Nov 2009 (RN); both species would have laid about Oct.

- Icterine Greenbul *Phyllastrephus icterinus*. Feeding fledgling in at least three different places, 29-31 Dec 2004 (thus eggs laid Nov, x 3); similarly feeding large fledgling in two places on 20 Dec 2009 and one or two full-grown, partly independent juveniles were probably from Oct eggs (for details on breeding cycle, see Brosset & Erard 1986). Female (mist-netted) with lean brood patch on 18 Aug 2010 (from eggs probably Jun-Jul). D&B saw some feeding two fledglings on 2 Sep 1988 (eggs laid probably Jul).
- Fire-crested (White-tailed) Alethe *Alethe diademata*. Female (mist-netted) on 19 Aug 2010 with active but lean brood patch (having laid Jun-Jul).
- Forest Robin *Stiphrornis erythrothorax*. Female (mist-netted) with active brood patch (watery) on 19 Aug 2010 (stage of small nestlings), from eggs laid probably early Aug.
- Olive-green Camaroptera *Camaroptera chloronota*. Carrying nest-building material (fluff of *Funtumia*) on 18 Aug 2010. One female, mist-netted on 19 Aug, about to lay.
- Cassin's Flycatcher *Muscicapa cassini*. Female nest-building over the Ankasa river on 21-22 Aug 2010, on branched log low over water.
- Dusky-blue Flycatcher *Muscicapa comitata*. One adult feeding a small fledgling, recently out (short tail), 19 Aug 2010 (eggs laid Jul), and two other pairs carrying food to nest or fledgling (eggs probably Jul).
- Chestnut Wattle-eye *Dyaphorophya castanea*. Female taking food from male and carrying it to nest (in tangle), 28 Dec 2004 (eggs laid Dec).
- Red-bellied Paradise Flycatcher *Terpsiphone rufiventer*. Nest-building 28 Dec 2004 (eggs not before Jan).
- Pale-breasted Illadopsis *Illadopsis rufipennis*. A family with fledgling(s), adults alarming persistently, 23-25 Dec 2009 (eggs probably laid Nov).
- Tit-Hylia *Pholidornis rushiae*. Nest-building in progress in the crown of a tall *Milicia regia* in Nkwanta Camp, 17 Dec 2009, completed by 23rd. Thus egg-laying should have occurred before end of the month.
- Fraser's Sunbird *Deleornis fraseri*. Feeding fledgling in at least three places, 29-31 Dec 2004 (eggs Nov, x 3).
- Collared Sunbird *Anthreptes collaris*. Large fledgling fed by male, 17 Dec 2009 (eggs Oct).
- Little Green Sunbird *Nectarinia seimundi*. D&B saw a pair feeding fledgling, 3 Sep 1988 (eggs probably Jul) and an adult feeding two fledglings on 12 Sep (eggs Jul or Aug).
- Olive Sunbird *Nectarinia olivacea*. Fledgling fed, 19 Dec 2009 (eggs probably Oct). Female (mist-netted) with active, fat brood patch on 20 Dec 2009 (eggs Dec). Female (mist-netted on 18 Aug 2010) about to lay. D&B observed nest-building on 11 Sep 1988.
- Copper-tailed Glossy Starling *Lamprotornis cupreocauda*. Nest-building in a hole in a dead tree just outside forest, 24 Dec 2009.
- Shining Drongo *Dicrurus atripennis*. A fledgling begging vigorously, 25 Dec 2009 (tail full-grown, eggs probably Oct).
- Blue-billed Malimbe *Malimbus nitens*. RD observed a nest with young, 10 Oct 2004 (eggs laid Sep). At least two occupied nests in late Dec 2009, nest-building at one, with much alarm-calling.
- Crested Malimbe *Malimbus malimbicus*. Pair nest-building in secondary forest behind Nkwanta camp, 28 Dec 2004.
- Grey-crowned Negrofinch *Nigrita canicapillus*. Nest-building in canopy, 30 Dec 2004.
- Chestnut-breasted Negrofinch *Nigrita bicolor*. Fledging begging and following adult, 20 Aug 2010 (eggs probably laid Jul). D&B observed one carrying nest-building material, 28 Aug 1988.
- Black-bellied Seedcracker *Pyrenestes ostrinus*. Male nest-building in swamp, 18 Aug 2010.

RD saw another three species at nest, but details of behaviour not noted (thus records cannot be back-dated to egg-laying month):

Fraser's Forest Flycatcher *Fraseria ocreata* (10 Oct); Yellow-mantled Weaver *Ploceus tricolor* (7 Oct); *Nigrita canicapillus* (9 Oct). Weavers and malimbés often visit old nests outside the breeding season, in their traditional nesting areas.

Moult

On 18-21 Dec 2009 77 birds were examined (Exploration camp) for primary moult or breeding evidence. With a few notable exceptions (e.g. Olive Sunbird, Yellow-whiskered Greenbul), several species had started moult. Totals of birds caught and ringed were: 1 *Turtur brehmeri*, 1 *Ceyx lecontei*, 3 *Alcedo leucogaster* (1 finishing moult), 14 *Andropadus latirostris* (none moulting, and indeed this species was still singing persistently), 3 *Andropadus virens* (2 had started moult), 2 *Phyllastrephus icterinus* (both males, just started moult), 1 *Bleda syndactylus* (female with old brood patch), 2 *Bleda eximius* (both started moult), 5 *Bleda canicapillus* (1 started moult), 2 *Criniger barbatus* (both in the middle of moult), 1 *Neocossyphus poensis*, 1 *Stizorhina fraseri finschi*, 4 *Alethe diademata* (3 started moult), 1 *Alethe poliocephala* (in moult), 4 *Stiphornis erythrothorax* (2 moulting, a female and a subadult), 3 *Hylia*, 1 *Elminia nigromitrata*, 5 *Illadopsis rufipennis* (3 started moult), 2 *Illadopsis cleaveri* (1 in full moult), 21 *Nectarinia olivacea* (none in moult).

On 18-22 Aug 2010 51 birds were mist-netted (5 were retraps from Dec 2009), all but 8 from the surroundings of Exploration camp: 2 *Alcedo leucogaster* (one was half-way through moult, being a retrap of a bird finishing moult in Dec), 1 *Indicator maculatus* (just starting moult, 22 Aug), 14 *Andropadus latirostris* (some in very fresh plumage), 2 *Phyllastrephus icterinus* (a breeding female, and a male retrapped from Dec), 1 *Bleda eximius* (active male), 4 *Bleda canicapillus*, 3 *Alethe diademata* (a breeding female and two retraps from Dec), 6 *Stiphornis erythrothorax* (including a breeding female, two active males and one inactive worn male), 1 *Hylia*, 1 *Camaroptera chloronota* (a female soon to lay), 1 *Elminia nigromitrata* (female in moult), 2 *Terpsiphone rufiventer* (both in full moult), 1 *Illadopsis cleaveri*, 7 *Nectarinia olivacea* (including two breeding females, one a retrap from Dec), 1 *Malimbus nitens* (very fresh), 2 *Parmoptila rubrifrons* (fresh), 2 *Spermophaga haematina* (very fresh).

Conclusion

Some species clearly breed in the rainy season and early dry season, especially Turdidae and insectivorous Pycnonotidae (*Phyllastrephus*, *Criniger*, *Bleda*), as shown by breeding records, followed by moult around December. The state of moult in *Illadopsis rufipennis* in Dec also suggests that breeding in some was just ending, as also shown by the presence of fledgling(s). However, as this species appears to be completely inactive vocally in Aug-Oct, this may mean that other individuals breed later (from January onwards). *I. rufescens* was also virtually silent in Aug, whereas it is very noisy in Dec. Although the flycatcher *Muscicapa comitata* breeds in the rains, other species (*Terpsiphone*, *Dyaphorophya*) breed in the dry season, and indeed an *Elminia* and both *Terpsiphone* caught in August were moulting. Some seed-eaters breed in the rains (e.g. *Pyrenestes*, *Spermophaga* from observations elsewhere, and generally high vocal activity in the rains in Ankasa and elsewhere); sunbirds may have an extended season. Doves were vocally active in the period of study, especially in the dry season. *Francolinus lathami* is generally a dry-season breeder and was completely silent in August.

Several cuckoos are seasonal callers: it was particularly striking to note the difference between *C. mehowi* (very noisy Dec but not Aug) and *C. olivinus* (very noisy Aug, still noisy but activity decreasing in late Dec). No doubt this is related to the breeding season of hosts. In Gabon *Cercococcyx* cuckoos are known to lay in nests of *Stiphornis* and *Illadopsis* (Brosset & Erard 1986), and one is tempted to see here a correlation between the high vocal activity of *C. olivinus* in the rains and that of Turdidae (including *Stiphornis*) whereas *C. mehowi* is more noisy in Dec, which coincides with high vocal activity of all 4 *Illadopsis* species.

4. ANNOTATED SPECIES LIST

4.1. Species list

After critical examination of various lists, the Ankasa total is 206 species. All records are assumed to be from Ankasa R.R., unless stated to the contrary, while "both reserves" means both Ankasa R.R. and Nini-Suhien N.P. Main authors of other records are abbreviated as follows: NB (N. Borrow, from trip reports and pers. comm. 2008-10); D&B (Dutson & Branscombe 1990); MD (Dyer 1997); RD (R. Demey *in litt.* 2004); PG (P. Gregory, trip report); AH (A. Hester *in litt.* 2005); LH (Holbech 1996 and 2005); RN (R. Ntakor pers. comm. 2010); MW (M. Williams pers. comm. 2010). English names usually follow Borrow & Demey (2001, 2004),

and scientific nomenclature Dowsett & Forbes-Watson (1993), with a few changes. Species we observed personally are indicated by an *.

- *White-crested Tiger Heron *Tigriornis leucolopha*. One singing early morning in deep shade near stream and pond (Nkwanta, Dec 2004). One repeatedly disturbed on the stream of the Education trail (Dec 2009), on one occasion taking a bath in the stream. Previously reported by D&B.
- *Dwarf Bittern *Ixobrychus sturmii*. One at a small pond (by new road) on 21 and 23 Dec 2009. Already located in that area by NB (19 April 2009), but not in late Apr-May 2010 (two visits). One was photographed by a camera trap on 29 Mar 2007 (document sent by C. Burton). Also seen in Feb 2010 (E. Krabbe), Mar 2011 (H. Hendriks) and as late as 28 Apr 2011 (W. Apraku *et al.*). Thus a non-breeding visitor in the dry season.
- Green-backed Heron *Butorides striata*. Reported by MD (1997: Table 1) for Ankasa R.R. Not in his Appendix 8 for this site, but seen on an earlier visit to the Ankasa River (M. Dyer *in litt.*). One at a pool by new road, 20 Apr 2009 and 6 May 2010 (NB).
- Great (White) Egret *Egretta alba*. Reported by MD (1997: Table 1) for Ankasa R.R. Not in his Appendix, but one seen flying over the Nkwanta area (M. Dyer *in litt.*).
- *Grey Heron *Ardea cinerea*. One flying at dusk (near swamps), 21 Dec 2009.
- *Spot-breasted Ibis *Bostrychia rara*. A pair flying at dusk across the Elubo track towards Nkwanta (Dec 2009), and a pair also at dusk over the first big swamp crossed by the new road (Aug 2010). Several other records, e.g. RD (Oct), AH (Nov 2004 and Jun 2005), NB (one flushed near the entrance, May 2010). Streams with sandy or muddy banks, small sections of flooded forest and edges of forest swamps provide much habitat.
- *Hartlaub's Duck *Pteronetta hartlaubii*. Breeding near Nkwanta in 1988: D&B saw 3 adults and 7 downy chicks on 11 Sep on a "large" pond. Encountered on both visits to the large swamp crossed by the new road: a pair on 21 Dec 2009 flew into a large dead tree, and three birds seen in the same swamp on 20 Aug 2010 flew up into the same dead tree. One of them disappeared inside a hole half-way up the main trunk, presumably brooding there (had not left after more than 15 min). Another bird disturbed repeatedly from a small pond just north of the first power-line crossing, perhaps also breeding there (Aug 2010). Also a pair on the Ankasa river on the park's boundary on 25 Dec 2009. Often seen in the large swamp in recent years, including with 6-8 chicks in Nov-Dec 2011 (A. Riley *et al.*).
- African Cuckoo Hawk *Aviceda cuculoides*. Apparently ticked for Nini-Suhien N.P. by MD (Dyer 1997: Table 1), but this species is not listed in his Appendix 10 for this site; it was in fact seen in Ankasa, near the power-line (M. Dyer *in litt.*).
- *European Honey Buzzard *Pernis apivorus*. Noted near Nkwanta by RD, Oct. Individuals seen a few times in Dec 2009. Clearly winters in Ankasa.
- *Palm-nut Vulture *Gypohierax angolensis*. Reported from Ankasa and Nini-Suhien by D&B, including in the *Elaeis* plantation at Nkwanta. Noted by AH. On 20 Dec 2009 one adult was sitting on a nest in a tall *Ceiba* in forest behind Nkwanta; one song heard in that area on 22 Dec.
- *Hooded Vulture *Necrosyrtes monachus*. One seen over the forest, Dec 2004. Normally commensal.
- *Congo Serpent Eagle *Dryotriorchis spectabilis*. One flushed from the edge of the track between Ankasa and Nkwanta (Dec 2004). One seen perched on a tall tree on the edge of the new road (north of power-line), Dec 2009. One heard and one seen 21 Apr 2009 and seen again in May 2010 (NB); one singing also in Dec 2009 by first pond (PG). Previously listed by MD, but without a source (1997: Table 1).
- *African Harrier Hawk (Gymnogone) *Polyboroides typus*. Local, seen/heard in 2009 north-east of Nkwanta (also by RD, AH in 2004), and reported from Nini-Suhien N.P. by D&B.
- *Black Sparrowhawk *Accipiter melanoleucus*. A rare raptor seen once by D&B, and AH. Seen near Exploration camp in Dec 2009.
- *Red-thighed (W. Little) Sparrowhawk *Accipiter erythropus*. One in canopy, edge of track between Ankasa and Nkwanta (2004). One pair near Exploration camp in 2009. Other records by D&B and AH.
- *African Goshawk *Accipiter tachiro*. Previous records from both reserves. Not encountered in late Dec 2004, but one singing near transmission line Dec 2009, and in farmbush just outside Ankasa gate. In Aug 2010

one singing at dawn near Exploration camp and another near Ankasa gate. D&B had only one record in one month (in Nini-Suhien). Apparently less common than in semi-evergreen rain forest.

*Long-tailed Hawk *Urotriorchis macrourus*. Encountered on each visit, near Nkwanta, between Nkwanta and the Suhien river, and between Ankasa gate and Nkwanta (1-2 km from the gate). Seen but mainly located from the adult song; immature calling on 25 Dec 2009; immature seen crossing new road Aug 2010 and another calling near Lophira trail. Also reported from Nini-Suhien N.P. by MD (his Appendix 10, but not in Table 1), and from Ankasa R.R. by several other observers.

Red-necked Buzzard *Buteo auguralis*. Noted by RD only (Oct). Marginal, normally in farmbrush.

Cassin's Hawk Eagle *Spizaetus africanus*. Seen once by D&B, and MD. Also reported from Nini-Suhien N.P. (Dyer 1997: Table 1), but this record does not appear in his Appendix 10 for this site, and is not his own (M. Dyer *in litt.*), thus we do not know the source.

Ayres's Hawk Eagle *Hieraaetus ayresii*. One in Dec 2011 (D. Hoddinott).

*Crowned Eagle *Stephanoaetus coronatus*. Heard midday in primary forest on the way to the Suhien river (Dec 2004). Heard near the Elubo trail (at 12h12) Aug 2010. Also reported from Nini-Suhien N.P. by D&B.

*Latham's Forest Francolin *Francolinus lathamii*. Several heard at night near the Suhien river (30-31 Dec 2004). Not as vocal or common as in other forests (e.g. Kakum, Cape Three Points). In Dec 2009, none heard before the 19th (two at dusk near Exploration camp), and none heard to the north of Nkwanta (new road) nor near Ankasa gate. None calling in Aug 2010.

*Ahanta Francolin *Francolinus achantensis*. Heard only in farmbrush on the boundary near the Ankasa river (all visits). MD had it in farmbrush at Nkwanta, but it seems to have disappeared from that area with forest regrowth.

White-breasted Guineafowl *Agelastes meleagrides*. One seen in 1988 in Nini-Suhien N.P. by D&B was the only record for nearly 20 years. There have been several recent reports of this threatened species: a few were seen by L. Holbech (*in litt.*) in Mar-Apr 2008 c. 2 km north-east of Nkwanta (up to about 10 birds). It was also seen by mammalogist S. Gatti in 2008 (pers. comm.), on the road between Ankasa and Nkwanta, and two were photographed by a camera trap on 8 Oct 2008 (document sent by C. Burton). In Apr 2011 5 seen near Nkwanta (NB *et al.*), and also 5 in Dec 2011 (D. Hoddinott).

*Crested Guineafowl *Guttera pucherani*. Heard in dense forest between Nkwanta and the Suhien river. Often seen by staff along the track between Ankasa and Nkwanta, especially at dusk. Also noted by RD, LH. Feathers reported from Nini-Suhien N.P. (D&B).

*Nkulengu Rail *Himantornis haematopus*. Widespread, judging by evening or nocturnal calls (Nkwanta and Exploration camps, Ankasa, Suhien river). A family party of 4-5 birds (two adults, at least two full-grown immatures) was walking on the track near Nkwanta early morning of 29 Dec 2004. The immatures were very tame, one flying off only when we got within 1 m of it. Noisy flight, like that of a guineafowl. Far from quiet in Dec (both visits) but extremely noisy in Aug 2010, singing for longer periods; one male even calling by day, 7h25, on 19 Aug.

Grey-throated Rail *Canirallus oculus*. One on the edge of forest pool, Apr 2011 (NB).

*White-spotted Flufftail *Sarothrura pulchra*. Widespread, usually near streams.

*Black Crake *Amaurornis flavirostris*. A pair in one of the big swamps, 20 Dec 2009, singing there Aug 2010. Observed with young by NB in Apr 2009.

*African Finfoot *Podica senegalensis*. Seen on the Ankasa river (2004) and on ponds in swamps by the new road (2009-10). Also seen on the Suhien river by MD (his Appendix 10, a record overlooked from his Table 1).

*African Jacana *Actophilornis africanus*. Two occasionally seen at forest dam (between Nkwanta and Suhien river, 2004), and three adults (two males, one female) in the big swamp near the new road (2009-10).

Afep Pigeon *Columba unicincta*. Four singles seen from the canopy platform near Ankasa (D&B), and heard in Nov by MD.

*Western Bronze-naped Pigeon *Columba (delegorguei) iriditorques*. Rather uncommon: a few heard by us (Dec 2004) and other observers, including Nini-Suhien N.P. (D&B). None heard in Dec 2009, but one singing (rarely) between Exploration camp and Nkwanta 18-19 Aug; one singing on the Elubo trail 19 Aug.

- *Blue-spotted Wood Dove *Turtur afer*. Reported heard in secondary “farmland forest” in the Nkwanta area by MD, but no other record and has probably disappeared from the area. Otherwise several calling along the Ankasa river on the boundary, near farms but also just inside forest.
- *Tambourine Dove *Turtur tympanistris*. Widespread, especially in disturbed areas; overall less numerous than Blue-headed Wood Dove.
- *Blue-headed Wood Dove *Turtur brehmeri*. The dominant dove species, throughout primary forest, in both reserves.
- *African Green Pigeon *Treron calvus*. Widespread in forest canopy.
- *Grey Parrot *Psittacus erithacus*. A few pairs or small family groups, both reserves. Still encountered almost daily (early morning and evening) in Dec 2009, but only once in Aug 2010. None near Ankasa gate (2009-10).
- *Yellow-billed (Verreaux’s) Turaco *Tauraco macrorhynchus*. Common throughout, both reserves.
- *Great Blue Turaco *Corythaëola cristata*. Conspicuous and noisy near Nkwanta, Elubo trail, new road etc. Reported from Nini-Suhien N.P. by D&B, up to 6 heard in a day. About 15 together in Mar 2011 (H. Hendriks).
- Red-chested Cuckoo *Cuculus solitarius*. Apparently very uncommon: heard by LH (no dates), and by MD in Nov near Nkwanta and in Nini-Suhien N.P. (in his Appendix 10, not Table 1). No records by RD (Oct), nor ourselves (all three visits) nor by RN and other recent visitors.
- *Black Cuckoo *Cuculus clamosus*. Local, but 1-2 very noisy in Dec (between Nkwanta and Ankasa, and new road north of Nkwanta). Also heard in Oct (RD) and Nov (AH, and MD in Nini-Suhien N.P., Appendix 10, but missing for this site in Table 1). In 2009-10 much more vocal in Dec than Aug.
- *Dusky Long-tailed Cuckoo *Cercococcyx mechowi*. Several calling persistently in canopy, both reserves (Dec 2004). Also heard Oct (RD) and Nov (MD, AH). D&B had apparently no records in Aug-Sep but had difficulty identifying the species on calls (Dutson & Branscombe 1990: 39). In 2009-10 much more vocal in Dec than Aug.
- *Olive Long-tailed Cuckoo *Cercococcyx olivinus*. Several heard in canopy, both reserves (Dec 2004). Calling also Oct (RD) and Nov (MD). Extremely noisy in Aug 2010, unlike congener: thus as many as 5 individuals singing along just under 2 km of track from Ankasa gate towards Nkwanta, 21 Aug (6-7h00). In 2009 vocal activity seemed to decrease from mid to late Dec, with most singing around dawn and dusk. No song noted by NB late Apr-early May 2010.
- *African Emerald Cuckoo *Chrysococcyx cupreus*. Commonest cuckoo, both reserves. Noisy.
- *Yellow-throated Cuckoo *Chrysococcyx flavigularis*. Heard once near Nkwanta by RD, 14 Oct. Heard near the Ankasa river on 25 Dec 2009.
- *Klaas’s Cuckoo *Chrysococcyx klaas*. Local: heard in disturbed forest near transmission line, behind Nkwanta and on Elubo trail; irregularly near Exploration camp (Aug). Also reported from Nini-Suhien N.P. by MD (Appendix 10, but not Table 1).
- *Yellowbill (Green Coucal) *Ceuthmochares aereus*. Common, both reserves.
- *Black-throated Coucal *Centropus leucogaster*. Common in secondary or disturbed forest, as near Nkwanta, Ankasa gate. Also along the transmission line.
- *Blue-headed Coucal *Centropus monachus*. One well seen in an area of open forest, flying across the track between Ankasa and Nkwanta (2004). Seen again in Dec 2009 and Aug 2010 near Ankasa gate on the boundary; also noted in garden of Elubo office. This species is generally common in farmbrush around Ankasa, where several surveys have failed to locate Senegal Coucal *C. senegalensis*. We believe that Chappuis’s (2000) recording of “Senegal Coucal” from the office area is in fact of Blue-headed. No previous records, except in Table 1 of Dyer (1997), without a source.
- *Sandy Scops Owl *Otus icterorhynchus*. One heard by NB (pers. comm.) in Apr 2009 and Apr 2010 at the start of the Elubo trail. This area was well explored in Dec 2009 and no Sandy Scops was calling by then, but it was heard briefly (4 notes) on 19 Aug 2010, 19h. This small forest owl is inexplicably local.
- Fraser’s Eagle Owl *Bubo poensis*. Listed from Ankasa R.R. by Dyer (1997, Table 1), but without a source. The species was confirmed by AH (Jun 2005), with the help of tape playback, several calling around Nkwanta camp. In Dec 2004 and 2009, tape playback of this species at Nkwanta and at the crossroads 1 km away

(Exploration camp), and on the track to Ankasa, failed to provoke this species into responding. RN *et al.* have found this species near Nkwanta but it appears to be much rarer in Ankasa than in semi-evergreen forest generally.

- *Akun Eagle Owl *Bubo leucostictus*. Searches for this species and Fraser's Eagle Owl around the Elubo/Ankasa-Nkwanta junction proved fruitless. But one male Akun came to tape playback *c.* 2.5 km from Ankasa gate, 25 Dec (giving the "roh" notes). It is exactly in this area that RN found it in November of the same year, when a pair came to tape playback. Also found once near Nkwanta by RN.
- Rufous Fishing Owl *Scotopelia ussheri*. One was flushed beside the Ankasa river and another "possible" was seen along the Suhien river (in 1988, D&B). An unusual hoot was heard briefly on two evenings near the stream on the Education trail: on 18 and 19 Dec 2009 (around 20h30), an owl gave a modulated hoot, repeated a few times. It was different in tone from that of Wood Owl. It was also different from the very strange hollow hoot tape-recorded in a captive Rufous Fishing Owl (Chappuis 2000). Much more needs to be learned about the voice of this species.
- *Red-chested Owlet *Glaucidium tephronotum*. First reported in 2004 (RD and ourselves) near Nkwanta. In 2009-10 several heard along new road north of Nkwanta and also on the Elubo trail and near Exploration camp.
- *African Wood Owl *Strix woodfordii*. Widespread, heard in both reserves.
- Brown Nightjar *Caprimulgus (Veles) binotatus*. Two birds seen at dusk over the Suhien river were reported as this species by D&B. They wrote that the song was not heard (at a time when the song of this species was in fact still undescribed, cf. Dowsett-Lemaire & Dowsett 1998). The call they described, a short "cluck", repeated, could well have been the song of Brown Nightjar, more appropriately described as "krrriuk, krrriuk, ...". In 2009-10 this species was searched for systematically (with tape playback) around Exploration camp, along the new road and Elubo trail, and near Ankasa gate without any results. However, one was clearly heard along the track from Ankasa gate to Nkwanta by RN and J. Lidster in Nov 2009. Obviously very local in Ankasa.
- *Black Spinetail *Telacanthura melanopygia*. A few near Nkwanta, Dec 2004 and 2009. Otherwise only recorded by D&B.
- *Sabine's Spinetail *Rhaphidura sabini*. Seen near transmission line and around Nkwanta camp and old village site. Also reported from Nini-Suhien N.P. (D&B). The most often reported species by other observers (MD in his Appendix 8-9, although missing from his Table 1; RD, AH), with up to 11 at evening gatherings at Nkwanta (Aug-Sep 1988, D&B). In 2009-10, more often seen in Dec (daily) than Aug (once in 5 days).
- *Cassin's Spinetail *Neafrapus cassini*. One or two near Nkwanta, seen on each visit, and seen also near new road just north of transmission line. Also reported from Nini-Suhien N.P. (D&B).
- *African Palm Swift *Cypsiurus parvus*. Seen near Nkwanta in Dec 2004. Normally commensal in the forest zone, breeding on Coconut Palms. May have bred in the past when there was a village at Nkwanta, or else merely a wanderer.
- *Common (European) Swift *Apus apus*. Regularly seen over the forest in Dec (small flocks). Probably wintering (observed also Oct, RD and Nov, MD and AH).
- *Little Swift *Apus affinis*. Noted near Nkwanta, Oct (RD), near Ankasa gate (Dec) and over ponds in Aug.
- *Bates's Swift *Apus batesi*. One seen between Nkwanta and Ankasa, Dec 2004 (also seen by MD in that area). Also reported from Nini-Suhien N.P. (D&B).
- Narina's Trogon *Apaloderma narina*. Found in very small numbers in Ankasa R.R. (LH, MD Nov, RD Oct), as well as Nini-Suhien N.P. (MD, Nov). As the species is generally silent in the dry season, our lack of records in Dec may be due to seasonal factors, but we heard none in Aug either.
- *Shining-blue Kingfisher *Alcedo quadibrachys*. On the Ankasa river, and even on small streams as on the Education trail; previous records also from the Suhien river (D&B, MD).
- *White-bellied Kingfisher *Alcedo leucogaster*. Seen on the Ankasa river, and a small stream flowing into the Suhien river. Netted (and heard) on the stream of the Education trail; heard on small stream north-east of Nkwanta. Often seen near the pools by the new road (NB).
- *African Dwarf Kingfisher *Ceyx lecontei*. One flying across Nkwanta camp in 2004. Frequently netted in An-

kasa R.R. by LH. Netted near Exploration Camp in 2009.

- *Chocolate-backed Kingfisher *Halcyon badia*. Widespread in forest understorey (both reserves); one of the first species to call at dawn.
- *Blue-breasted Kingfisher *Halcyon malimbica*. In secondary swampy forest near Nkwanta, where recorded by all observers. Also locally in forest north of Ankasa gate, near Exploration camp and along Elubo trail.
- *Woodland Kingfisher *Halcyon senegalensis*. Pairs or individuals present in all big swamps; also in large clearings near Nkwanta and transmission line. Appears resident. Breeds in tree holes: on 20 Aug female clearing out a hole over 20 m high in a dead trunk (swamp), tapping inside and throwing debris out, while male was singing nearby, immediately in front of dead trunk, then followed female closely as soon as she left.
- *Giant Kingfisher *Megaceryle maxima*. Present on the Ankasa river (2004). Previous records only by D&B, same river.
- Pied Kingfisher *Ceryle rudis*. Seen once on the Ankasa river by D&B, not since as far as we know.
- *Blue-headed Bee-eater *Merops muelleri*. One on edge of track between Nkwanta and Ankasa (2004). RD had two singles in same location (2004), as well as NB in 2010. Seen near the Suhien river by D&B.
- *Black Bee-eater *Merops gularis*. One on the edge of forest over the Ankasa river (2004) and in farmbush nearby (2009). Also seen around the Suhien river by D&B, and recorded by RD.
- *White-throated Bee-eater *Merops albicollis*. Winters mainly in farmbush, but some flying over forest (between Nkwanta and Ankasa), and also hunting along transmission line. Known dates are from early Nov (AH) to at least mid-May (NB).
- *Blue-throated Roller *Eurystomus gularis*. Widespread in forest canopy, much more quiet in Aug than Dec.
- *White-headed Wood Hoopoe *Phoeniculus bollei*. Uncommon. Canopy species noted once by RD, along Elubo track. One previous record, by Dyer (1997: Table 1, not in Appendix) who saw three birds crossing the Nkwanta track (M. Dyer *in litt.*). In Dec 2009 heard once in forest north-east of Nkwanta.
- *Forest Wood Hoopoe *Phoeniculus castaneiceps*. Uncommon: one seen in canopy near Nkwanta; occasionally near Exploration camp.
- *White-crested Hornbill *Tropicranus albocristatus*. Discreet species, noted in forest near Ankasa (other records by LH, RD), also near Exploration camp, where more noisy in Dec than Aug. Ticked for Nini-Suhien N.P. by MD (Table 1), without a source.
- *Black Dwarf Hornbill *Tockus hartlaubi*. Uncommon. One seen in canopy between Nkwanta and Ankasa (2004). One singing at start of Elubo trail from Nkwanta, Aug 2010. Also noted by LH and AH.
- *Red-billed Dwarf Hornbill *Tockus camurus*. Status difficult to assess as not very vocal in Dec: in 2004 heard only once (30 Dec) in primary forest between Nkwanta and the Suhien river, and in 2009 not heard before the 20th Dec (since the 17th), near Exploration camp, and a single song heard on Elubo trail on 23 Dec. More vocal in Aug 2010, at least near the Exploration camp. Also reported from Nini-Suhien N.P. by D&B.
- *African Pied Hornbill *Tockus fasciatus*. Common, throughout (both reserves).
- *Piping Hornbill *Bycanistes fistulator*. Common around Nkwanta, and generally widespread (both reserves). Feeding on drupes of *Maesopsis* (Aug). Flocks of up to 40 noted by D&B near Nkwanta in Aug-Sep 1988.
- *Brown-cheeked Hornbill *Bycanistes cylindricus*. Encountered twice in 4 days (in Dec 2004). Also reported from Nini-Suhien N.P. by D&B. RD heard it twice in a week. No records in 2009-10.
- *Black-casqued Hornbill *Ceratogymna atrata*. A pair encountered once, near the Suhien river (Dec 2004). Heard once near new road in Aug 2010. D&B had more in Suhien N.P. than near Nkwanta.
- *Yellow-casqued Hornbill *Ceratogymna elata*. Several encountered between Nkwanta and Ankasa, Nkwanta and the Suhien river, and right by the river itself; also on the Elubo trail, and the new road north of Nkwanta. Encountered every day on all three visits, unlike *C. atrata* and *B. cylindricus*. RD recorded up to 6 together on 10 Oct 2004.
- *Naked-faced Barbet *Gymnobucco calvus*. Very small numbers in canopy, more often near gaps and clearings. Pair seen at solitary nest (Dec 2004). Also identified by D&B, MD, RD, etc. LH had unusual numbers of this species on his transects, almost certainly through confusion with voice of *Buccanodon duchailui*

(which he did not record).

- *Bristle-nosed Barbet *Gymnobucco peli*. At least one (probably more) encountered at forest edges at the start of the Elubo trail, Dec 2009. Also observed (about 10) by NB in Apr 2009. Must be less common than Naked-faced Barbet, and difficult to distinguish on voice.
- *Yellow-spotted Barbet *Buccanodon duchailloi*. Common species, seen and heard daily at mid-levels in mixed parties throughout (both reserves). Also recorded by D&B, RD (rated as “common”), AH etc. RD (*in litt.*) wrote: “The most frequently heard barbet, with up to 20 on a single day”. One of the most persistent callers throughout the day, in both seasons, but does not start (usually) before an hour or so after dawn.
- *Speckled Tinkerbird *Pogoniulus scolopaceus*. Widespread, but more often noticed in secondary forest.
- *Yellow-throated Tinkerbird *Pogoniulus subsulphureus*. Commonest tinkerbird species, throughout.
- *Red-rumped Tinkerbird *Pogoniulus atroflavus*. Widespread, usually calling in canopy (both reserves).
- *Hairy-breasted Barbet *Tricholaema hirsuta*. Common throughout (both reserves).
- *Yellow-billed Barbet *Trachyphonus purpuratus*. Widespread, tall trees and emergents. Reported from Nini-Suhien N.P. by MD.
- Cassin’s Honeybird *Prodotiscus insignis*. RN saw an immature fed by Green Hylia in late Nov 2009. An interesting breeding and host record.
- *Spotted Honeyguide *Indicator maculatus*. One flying across the Elubo trail, 23 Dec 2009. One mist-netted near Ankasa gate in Aug 2010. Also seen by RN.
- *Lesser (Thick-billed) Honeyguide *Indicator minor (conirostris)*. One singing in forest between Nkwanta and the transmission line (start of path to the Suhien river), Dec 2004; heard in exactly the same area in Dec 2009. Also recorded by RD. In Dec 2009 also heard near the Ankasa river near the boundary.
- Least Honeyguide *Indicator exilis*. Netted in Ankasa by LH.
- Willcocks’s Honeyguide *I. willcocksii*. Reported by RN, from along the new road (2009).
- *Little Green Woodpecker *Campethera maculosa*. Found along the Ankasa river on 25 Dec 2009. One previous record by D&B.
- *Buff-spotted Woodpecker *Campethera nivosa*. Apparently rare: noted as “rare” by RD (i.e. one in a week); only three netted in Ankasa in two months (LH). Reported from Nini-Suhien N.P. by D&B. Encountered once in a bird party in Dec 2009.
- *Brown-eared Woodpecker *Campethera caroli*. In 2004 seen in two different parties in tall primary forest between the transmission line and the Suhien river, at mid-levels, and met in several bird parties in Dec 2009 (including near junction of Elubo and Nkwanta/Ankasa tracks).
- *Gabon Woodpecker *Dendropicos gabonensis*. In secondary forest near Nkwanta, on two of three visits (both Dec, when all woodpeckers are more vocal).
- *Fire-bellied Woodpecker *Thripias pyrrhogaster*. In upper levels of the forest, uncommon (secondary forest near Nkwanta, swamps and transmission line). Reported from Nini-Suhien N.P. by D&B. More noisy in Dec than in Aug (when drum heard only once in 5 days).
- *Rufous-sided Broadbill *Smithornis rufolateralis*. Late Dec 2004: not very noisy as heard and seen displaying once near Nkwanta, but heard daily (early morning) in Dec 2009, some alarm-calling. Even more noisy in Aug (2010), including on clear evenings. Also seen in Nini-Suhien N.P. by D&B.
- *Square-tailed Saw-wing *Psalidoprocne nitens*. A few often seen in clearings along transmission line (all visits); also seen over the Ankasa river (at the gate), and near junction of Nkwanta/Elubo tracks. D&B mention a roost in tall dead trees near Ankasa, with up to 30 birds present Aug-Sep, and also report it from Nini-Suhien N.P.
- White-throated Blue Swallow *Hirundo nigrita*. One seen near the Ankasa river by D&B (1988). No other documented records, even though the habitat appears suitable.
- *Barn (European) Swallow *Hirundo rustica*. A few over the forest (Dec 2004), but in Dec 2009 noted only outside, over farmbrush; also recorded Oct (RD).
- *Blue Cuckoo-shrike *Coracina azurea*. Uncommon, no more than two or three observations of this canopy species per visit. Reported from Nini-Suhien N.P. by D&B. This species is much commoner in semi-evergreen rain forest.
- *Little Greenbul *Andropadus virens*. Common understorey species, especially where there are tangles, also in

secondary growth. Ticked for Nini-Suhien N.P. by MD (Table 1).

- *Little Grey Greenbul *Andropadus gracilis*. Uncommon, in disturbed forest or at edges (track between Nkwanta and Ankasa; especially around the transmission line, and old village site at Nkwanta).
- *Ansorge's Greenbul *Andropadus ansorgei*. Much commoner than last, throughout (from Ankasa gate to Nkwanta, Elubo trail and along new road), usually in upper levels. Located from song but more often from characteristic dry trill. Found in every large bird party around Exploration camp (Dec 2009, Aug 2010).
- *Cameroon Sombre Greenbul *Andropadus curvirostris*. Common understorey species, usually located by its song (dialect typical of SW Ghana, two whistles followed by a modulated trill) or rolled calls.
- *Slender-billed Greenbul *Andropadus gracilirostris*. A common canopy species (both reserves).
- *Yellow-whiskered Greenbul *Andropadus latirostris*. Very common understorey species (both reserves). Large numbers netted by LH. Very noisy in early mornings but sings also throughout the day.
- *Golden Greenbul *Calyptocichla serina*. Uncommon canopy species, seen and heard in secondary forest near Nkwanta, and on the new road, both Dec visits. Not heard in Aug.
- *Honeyguide Greenbul *Baeopogon indicator*. Widespread species of upper levels (both reserves).
- *Spotted Greenbul *Ixonotus guttatus*. Rather local (canopy): seen near Ankasa gate, in tall primary forest between the Suhien and transmission line, and near the junction of the Elubo and Nkwanta roads (common in Aug, not noticed there in Dec).
- *Swamp Palm Bulbul *Thescelocichla leucopleura*. At forest edges or in secondary forest, often near stream or other water (e.g. Nkwanta, transmission line). Ticked for Nini-Suhien N.P. by MD (Table 1).
- *Icterine Greenbul *Phyllastrephus icterinus*. Very common understorey species, both reserves.
- *Red-tailed Bristlebill *Bleda syndactylus*. Common understorey species (both reserves).
- *Green-tailed Bristlebill *Bleda eximius*. Locally common understorey species, very regularly heard around Exploration camp, roads towards Ankasa and Elubo, also along new road. Song heard almost every morning in Dec, daily in Aug, when more noisy than Red-tailed Bristlebill.
- *Grey-headed Bristlebill *Bleda canicapillus*. Common understorey species (both reserves).
- *Western Bearded Greenbul *Criniger barbatus*. Common understorey species (both reserves).
- *Red-tailed Greenbul *Criniger calurus*. Common at low and mid-levels (both reserves).
- *Yellow-bearded Greenbul *Criniger olivaceus*. Widespread and probably common, but overall more discreet and less noisy than congeners. In Dec 2004 seen at mid-levels (20-25 m) in three mixed parties: one pair in a *Musanga* near track between Nkwanta and Ankasa; one pair in two different parties in primary forest between the transmission line and the Suhien river. One bird (member of a pair) reacted strongly to tape playback of *C. (olivaceus) ndussumensis* but never came lower than 20 m; still singing the next morning in the same area. Also listed from Nini-Suhien N.P. by MD (Table 1) without an identifiable source. On longer visits in 2009-10 encountered daily in most parties between Nkwanta and Exploration camp, new road north of Nkwanta, Elubo trail, Ankasa road and Lophira trail. Noted as more noisy in Dec than Aug. On 17 Dec one individual, after giving a few typical songs, appeared alarmed and produced series of "tru-tru-tru..." rolled calls (about 10 per series), watching the observer at close range, at a height of 1 m among saplings.
- *Common Bulbul *Pycnonotus barbatus*. Does not enter primary forest, but identified at edges (Ankasa) and also very locally along transmission line.
- *Western Nicator *Nicator chloris*. Fairly common in forest with tangles, around gaps etc., including on the Suhien river.
- *White-tailed Ant Thrush *Neocossyphus poensis*. Locally common in shaded forest, e.g. up to several encountered on the Elubo trail in one morning.
- *Rufous (Finsch's) Flycatcher Thrush *Stizorhina fraseri finschi*. Common, throughout (both reserves).
- Grey Ground Thrush *Zoothera princei*. Three were netted in Ankasa R.R. by LH, presumably in deep forest, 1993. "One seen briefly in the clearing at Ankasa (just outside the Ankasa GPR)" by D&B in 1988 was in unexpected habitat.
- *Fire-crested (White-tailed) Alethe *Alethe diademata*. Common understorey species (both reserves).
- *Brown-chested Alethe *Alethe poliocephala*. The only records in Ankasa R.R. are from netting, by LH, and by RJD on the Education trail. One seen at an ant column in Nini-Suhien N.P. by D&B.

- *Forest Robin *Stiphornis erythrothorax*. Widespread (both reserves). Song of same timbre as that of *E. leucosticta*, but phrase shorter. Reacts to long song of *E. leucosticta*, as in Kakum and Kyabobo. Short snatches of song heard most days in Dec (both visits), but far more noisy in Aug (counter-singing with neighbours, much alarm-calling).
- Lowland Akalat *Sheppardia cyornithopsis*. Usually confined to forest on hills and plateaux (e.g. Atewa), this rare species was seen at an ant swarm in shaded understorey near a stream, Apr 2011 (NB *et al.*).
- Forest Scrub Robin *Erythropygia leucosticta*. Rare: two netted in Ankasa by LH. A pair seen once in Nini-Suhien N.P. by D&B “boldly scolded the observer and were probably nesting nearby” (no date, but between 26 Aug-10 Sep).
- *Rufous-crowned Eremomela *Eremomela badiceps*. In canopy near transmission line (2004). Noted as “rare” by RD (one pair in the same area). Parties seen on the Suhien river by D&B, although 10 together seems very odd.
- *Green Crombec *Sylvietta virens*. In secondary forest at Nkwanta in 2004, but no more records from that area in 2009-10. Reported from Nini-Suhien N.P. by MD (Table 1), but without a source, and unlikely in primary forest. In 2009-10 noted only outside forest, in farmbrush near Ankasa gate.
- *Lemon-bellied Crombec *Sylvietta denti*. One seen in canopy on edge of track between Nkwanta and Ankasa (Dec 2004). Noted as “rare” by RD.
- *Grey Longbill *Macrosphenus concolor*. Common throughout, in tangles (both reserves); sings frequently in mixed parties.
- *Kemp’s Longbill *Macrosphenus kempii*. Very local: in Dec 2004 one heard in farmbrush at village site and recorded at the same spot by RD (pers. comm.). Seems to have deserted this area since, but one heard in thickets near Chinese Bamboos north of Nkwanta (Dec 2009) and in thickets under transmission line (Aug 2010).
- *Wood Warbler *Phylloscopus sibilatrix*. One feeding in the crown of a *Parkia*, 21 Dec 2009. One in Mar 2011 (H. Hendriks).
- *Green Hylia *Hylia prasina*. Common understorey species (both reserves). Seen an immature stuffing itself on aphids.
- *Black-capped Apalis *Apalis nigriceps*. Fairly widespread in canopy or subcanopy. Seen in Nini-Suhien N.P. by D&B. Based on voice, we found this species more common than Sharpe’s (all three visits).
- *Sharpe’s Apalis *Apalis sharpii*. Fairly widespread in canopy or subcanopy, both reserves, but rather uncommon.
- *Yellow-browed Camaroptera *Camaroptera supercilialis*. In secondary tangles, on the edge of tracks, Ankasa gate and the transmission line where fairly common.
- *Olive-green Camaroptera *Camaroptera chloronota*. Local species of moist, dense understorey in secondary situations, heard near Nkwanta, and edge of swamps and low bush near the transmission line. Rare near Exploration camp. Reported from Nini-Suhien N.P. by MD.
- *Fraser’s Forest Flycatcher *Fraseria ocreata*. Scattered observations at forest edges or open canopy near Nkwanta, along new road (several along a couple of km), once near Exploration camp (a wanderer, Dec 2009). More noisy in Dec 2009 than Aug 2010. Also recorded by RD (very vocal in Oct), LH, and by D&B for both reserves. D&B add that one bird was regularly entering a sunbird-type nest (30 cm long, hanging from a liane) near Ankasa. This is unlikely to be correct, as the known nest type is a voluminous cup against a trunk or in a tree fork (e.g. Brosset & Erard 1986, pers. obs. in Congo and Sierra Leone); Dusky-blue Flycatcher, on the other hand, does lay in old weavers’ nests (Brosset & Erard 1986).
- *White-browed Forest Flycatcher *Fraseria cinerascens*. One seen hunting over the Suhien river from a low perch and flying away with insect prey (nesting?) on 29 Dec. Also reported from the Ankasa river (D&B).
- *Olivaceous Flycatcher *Muscicapa olivascens*. One heard in closed forest canopy near Nkwanta, early morning (Dec 2004). Easily overlooked. Also recorded by RD.
- *Cassin’s Flycatcher *Muscicapa cassini*. Seen hunting over the Ankasa river in a couple of places (Dec 2004, Aug 2010). Also reported from the Suhien river (D&B, MD). Nest-building in Aug 2010 in a fork of twigs from a partly emerged fallen log, rather low over the Ankasa river (50 cm). After heavy rain on 21 Aug the water level rose by at least 10 cm, but the female was still building on the following morning,

with male in attendance.

Little Grey Flycatcher *Muscicapa epulata*. Seen once by RN along the new road (2009). One previous sighting reported from the Nkwanta area by LH.

*Dusky-blue Flycatcher *Muscicapa comitata*. Reported by several observers, including D&B, RD and AH. After our two Dec visits we had the impression this bird was scarce, but it was found more often in Aug (2010), as by then it was rather noisy and breeding. The most characteristic call is a low dry rattle “frrrrr”. Thus pairs seen on the edge of clearing in secondary forest near Nkwanta camp, in swamp forest between Nkwanta and Exploration camp, in tangles near Exploration camp, along road towards Ankasa, and along Elubo trail, in clearing over stream. Feed at heights between 2-3 m and 15 m. Also in farmbush near Ankasa gate (seen perched on wire).

*Ussher’s Flycatcher *Muscicapa ussheri*. A local species of emergents, or well-spaced tall trees. Recorded by D&B (both reserves) and RD (5 together on the power-line). Also seen on and around the power-line in Aug 2010, and in farmbush near the Ankasa gate in Dec 2009.

*Lead-coloured Flycatcher *Myioparus plumbeus*. Only record inside the reserve is by RD, along the transmission line. Heard in farmbush within 100 m of the Ankasa gate, Dec 2009.

*Grey-throated Flycatcher *Myioparus griseigularis*. Local species of disturbed understorey, heard and seen on the Elubo trail, near Nkwanta, and between Nkwanta and the Suhien river.

Shrike-Flycatcher *Megabyas flammulatus*. Three birds seen, Apr 2010 (NB).

Bioko (Fernando Po) Batis *Batis poensis*. “One in a mid-storey mixed flock at Ankasa” on the edge of the reserve (D&B) was the only record for a long time. Seen once by RN along the new road, 2009. Normally in the tallest trees.

*Chestnut Wattle-eye *Dyaphorophya castanea*. Common understorey species. Also reported from Nini-Suhien N.P. (D&B, MD).

Chestnut-capped Flycatcher *Erythrocerus mccallii*. One seen by a pool near Nkwanta (D&B) was the only record for a long time. Single seen by AH, Nov 2004 and by PG, Dec 2009. Evidently rare, as normally easy to locate on calls and demonstrative behaviour.

*Dusky Crested Flycatcher *Elminia nigromitrata*. Discreet understorey species recorded by some (e.g. RD, AH) and netted in small numbers by LH. Netted by RJD on the Education trail, and seen on the Lophira trail, a bird in song and imitating Olive Sunbird (22 Aug 2010).

*Blue-headed Crested Flycatcher *Trochocercus nitens*. Much the same niche as Grey-throated Flycatcher. Indeed noted in the same area, in tangled understorey, but somewhat more widespread.

*Red-bellied Paradise Flycatcher *Terpsiphone rufiventer*. Common understorey species, both reserves.

*Brown Illadopsis *Illadopsis fulvescens*. Very local: identified in disturbed forest at edge of transmission line (group calling and seen), 2004, heard again (from new road) in that area in Dec 2009. Some singing at forest edges near the junction of the Elubo and Nkwanta roads (Aug and Dec visits).

*Pale-breasted Illadopsis *Illadopsis rufipennis*. Common, throughout primary forest (both reserves) and coming to edges as well. Noisy in Dec (both visits), but not singing at all in Aug 2010 (albeit a few seen) and RD did not hear any in Oct 2004. Netted in large numbers by LH.

*Blackcap Illadopsis *Illadopsis cleaveri*. Widespread and common, singing regularly in early morning, and can often be heard until the midday hours (Dec) or even in late afternoon (Aug). Reported from Nini-Suhien N.P. by MD.

*Rufous-winged Illadopsis *Illadopsis rufescens*. In Dec visits quite a few singing near the junction of the Elubo and Nkwanta roads, in dense forest along the Elubo and Nkwanta-Ankasa roads and between the Suhien river and the transmission line. Mostly in undisturbed understorey below closed canopy. In Dec 2009 also heard commonly near Ankasa gate (in forest along the main road towards Nkwanta, and Lophira trail), even until the midday hours. Reported from Nini-Suhien N.P. by MD (Nov). Almost silent in Aug 2010, when one was heard for just a few minutes in the early morning on two of five days. Apparently still not very vocal in Oct, as noted as “rare” by RD, based on singles singing on two days. Like Blackcap and Puvél’s Illadopsis *I. puveli*, this bird is apparently a solitary, territorial species (the social unit being the pair) (see also Lowe 1937). Also produces a series of downward whistles similar to those of Puvél’s, but softer. Probably given by mate, as heard very close to a singing male.

- *Forest Penduline Tit *Anthoscopus flavifrons*. A group of 4 along the new road (one chasing another), 21 Dec 2009; calls are very thin and occasionally include a diagnostic fine trill. Also encountered near the Exploration camp. No previous records of this very discreet species.
- *Tit-hylia *Pholidornis rufiae*. One record by RD (Oct 2004), in secondary forest near Nkwanta camp. In Dec 2009 one was building a nest in the crown of a *Milicia regia* in Nkwanta camp: the nest was along a thin horizontal branch just below the canopy, well hidden in leaves, at a height of about 22 m. The bird kept bringing fluff from the fruits of a nearby *Funtumia*.
- *Fraser's Sunbird *Deleornis fraseri*. Common understory species, one of the more frequent members of mixed parties (with Icterine Greenbul, Grey Longbill...). Has an early morning song of 3 or 4 sibilant, detached "srree" notes, somewhat reminiscent of the contact calls. Also reported from Nini-Suhien N.P. (D&B).
- *Green (Yellow-chinned) Sunbird *Anthreptes rectirostris*. In canopy and secondary forest around Nkwanta, also along new road north of Nkwanta. Less noisy than Collared and more easily overlooked. One seen in Nini-Suhien N.P. by D&B.
- *Collared Sunbird *Anthreptes collaris*. A common canopy species (both reserves), also in secondary tangles.
- *Little Green Sunbird *Nectarinia seimundi*. Pair well seen in mid-stratum, edge of track between Nkwanta and Ankasa. Also reported from Nini-Suhien N.P. by D&B.
- *Olive Sunbird *Nectarinia olivacea*. Very common species, at all levels (both reserves).
- *Blue-throated Brown Sunbird *Nectarinia cyanolaema*. Common canopy species (both reserves).
- *Buff-throated Sunbird *Nectarinia adelberti*. Somewhat uncommon, but located in a few places at forest edges, near Nkwanta camp, rarely along Nkwanta-Ankasa road, and in open canopy near new road.
- *Olive-bellied Sunbird *Nectarinia chloropygia*. A species of farmbush or low secondary forest, around Nkwanta old village site, and in open bush near transmission line. Ticked by MD for Nini-Suhien N.P. in Table 1, but it does not normally occur in closed forest.
- *Tiny Sunbird *Nectarinia minulla*. A male of this species was well seen in mid-stratum on the edge of the track between Nkwanta and Ankasa, Dec 2004. Located more often (from its song) in Dec 2009, when found widespread, usually at mid-levels at forest edges (Nkwanta, Elubo trail, Exploration camp, near Ankasa gate etc.). Less vocal in Aug (2010).
- *Johanna's Sunbird *Nectarinia johannae*. Although missed in late Dec 2004, this canopy species was found fairly widespread in 2009-10, and there are records by several other observers.
- Superb Sunbird *Nectarinia superba*. Seen by D&B, also AH. Normally at forest edges or in farmbush.
- *Western Black-headed Oriole *Oriolus brachyrhynchus*. Widespread and common, often in medium-sized trees (both reserves). Has many different song motifs, including a "fuuh" reminiscent of Many-coloured Bush Shrike (sometimes even without an introductory "chuck"), as seen producing this song in Aug 2010. Thus potential confusions with bush shrikes and Black-winged Orioles are many. Elsewhere in SW Ghana, only Black-winged Oriole seems to produce this "bush shrike" song type, but it was heard in W. Black-headed Oriole in Gola Forest, Sierra Leone (Dowsett-Lemaire & Dowsett 2008).
- *Black-winged Oriole *Oriolus nigripennis*. Seen at forest edges on the transmission line (2004): one oriole was brought into sight, called up by the song of the *Malaconotus* upward whistle "fuuh". At close range, the somewhat different timbre and pitch of the oriole songs are noticeable. The "fuuh" whistle may also be preceded by soft "tchic-tu" (thus "tchic-tu-fuuh"), which eliminates confusion. However, the fact that W. Black-headed Oriole also produces this song type in Ankasa urges caution in identifying orioles in this area. Call-notes are more reliable. Considered as rare or very local at Ankasa.
- *Sabine's Puffback *Dryoscopus sabini*. Rather uncommon at Ankasa (all visits). Also noted as "rare" by RD.
- *Many-coloured Bush Shrike *Malaconotus multicolor*. Confirmed to occur by RN and W. Apraku, who called one up along the road from Nkwanta to Ankasa (2009). Possibly one heard from Exploration camp (Aug 2010) but it was rather distant. Certainly rare in Ankasa, this species is more often found in hill situations.
- *Red-billed Helmet Shrike *Prionops caniceps*. Widespread without being common.
- *Shining Drongo *Dicrurus atripennis*. Common understory species, throughout (both reserves). A noisy leader of bird parties. Song includes imitations (often of Forest Wood Hoopoe).
- *Velvet-mantled Drongo *Dicrurus (adsimilis) modestus*. Small numbers in emergents and open canopy (both reserves). Almost silent in Aug, heard only once in 5 days.

- *Forest Chestnut-winged Starling *Onychognathus fulgidus*. Uncommon: encountered in canopy north-east of Nkwanta, 2004 and 2009 (on last visit, singing in *Ceiba* tree where Palm-nut Vulture was nesting); one in flight 2010. Diagnostic fluid calls. Also recorded once by RD.
 - *Copper-tailed Glossy Starling *Lamprotornis cupreocauda*. Widespread, usually in pairs. Found nesting in a hole (18 m high) in a dead tree in farmbush just outside the reserve near Ankasa gate (Dec 2009). Eating drupes of *Maesopsis*, Aug 2010. Reported from Nini-Suhien N.P. by D&B, who saw as many as 23 in either Aug or Sep (1988).
 - *Splendid Glossy Starling *Lamprotornis splendidus*. Also widespread, and sometimes encountered in flocks of a dozen or more (Dec), as near transmission line, or Elubo trail. Also reported from Nini-Suhien N.P. by D&B. RD recorded up to 20 birds in a day (Oct).
 - *Yellow-mantled Weaver *Ploceus tricolor*. Recorded by RD (including pair at a nest on 7 Oct) and AH in 2004. In Dec 2009 one pair in a *Ceiba* north-east of Nkwanta, next to a cluster of about 6 unoccupied nests. Also seen in a canopy party edge of the new road. Obviously much less common here than in semi-evergreen forest.
 - *Maxwell's Black Weaver *Ploceus albinucha*. Uncommon: group singing and feeding in canopy between the Suhien river and transmission line (2004). Seen in a canopy party along the new road (2009). Groups of 5 and 10 feeding in an emergent in Nini-Suhien N.P. (D&B).
 - *Blue-billed Malimbe *Malimbus nitens*. Common understorey species (both reserves), a frequent member of mixed parties. Breeds over water in several ponds and swamps.
 - *Crested Malimbe *Malimbus malimbicus*. Widespread or even common (a regular member of bird parties around Exploration camp), feeding in tangles of vegetation at mid-levels. Pair nest-building in Dec 2004, the spherical nest being attached to the tip of a liane hanging at mid-levels.
 - *Red-vented Malimbe *Malimbus scutatus*. Not noted in 2004, but a few in Dec 2009 (Elubo trail) and Aug 2010 (Ankasa gate), canopy. There are other records, e.g. by RD and D&B. Usually partial to *Raphia* palms for nesting.
 - *Red-headed Malimbe *Malimbus rubricollis*. Canopy species, seen in mixed parties, widespread in small numbers.
 - *Red-fronted Antpecker (Flower-pecker) *Parmoptila rubrifrons*. Discreet species of understorey in primary forest. Main records are from mist-netting, by LH and RJD (a pair in Aug, Exploration camp); also a pair seen along the main road, 6 May 2010 (NB).
 - *Grey-crowned Negrofinch *Nigrita canicapillus*. Common, at all levels, secondary and primary forest (both reserves).
 - *Chestnut-breasted Negrofinch *Nigrita bicolor*. Widespread, and common near water (edge of swamps). Also in Nini-Suhien N.P. (D&B).
 - *White-breasted Negrofinch *Nigrita fusconotus*. Canopy species, the least common of the three negrofinches, recorded on the Elubo trail Dec 2009; RD noted it on two of 8 days. The song (of 4-5 notes) is not vastly different from some motifs of Grey-crowned Negrofinch. Ticked for Nini-Suhien N.P. by Dyer (Table 1), apparently instead of *N. bicolor* (which he left out, although recorded by D&B).
 - *Black-bellied Seedcracker *Pyrenestes ostrinus*. One record by D&B of one near a pool near Nkwanta. On 18 Aug 2010 a male was collecting material in ferns on the edge of a big swamp (new road near transmission line), building a nest in the next clump of ferns. Can be very elusive outside the breeding season.
 - *Western Bluebill *Spermophaga haematina*. Not often recorded in Dec visits (farmbush and forest on the edge of the river at Ankasa gate, tangles below transmission line), but much more vocal in Aug, when singing or calling at forest edges and near swamps in several areas, as along the Elubo trail (in clusters of the fern *Gleichenia linearis*) and the new road near swamps; and singing a great deal at forest edges or even inside forest near Ankasa gate.
- Green Twinspot *Mandingoa nitidula*. Normally a species of low secondary growth outside forest, e.g. in old fields. M. Dyer (*in litt.*) saw one pair in primary forest in Nini-Suhien N.P., which is odd. They were on a thick branch over the river. Mention of a flock of 30 in a clearing near Ankasa (by D&B) is also very unusual.
- *Orange-cheeked Waxbill *Estrilda melpoda*. A farmbush species, seen feeding at forest edges on the track bet-

ween Nkwanta and Ankasa, Dec 2004.

*Black-and-white Mannikin *Spermestes bicolor*. Some flocks encountered in secondary growth near transmission line and swamps, Aug 2010. Must be subject to local or seasonal movements, and not usually recorded inside the reserve.

Species previously recorded from the reserve but which seem to have disappeared following the natural reforestation of the Nkwanta area:

Tawny-flanked Prinia *Prinia subflava*. Noted in farmbush near Nkwanta by RD (a single bird, once) in Oct 2004, but none since. Searched for but not found anywhere near transmission line, so this species probably occurs today only outside the reserve.

Grey-backed Camaroptera *Camaroptera brachyura*. A farmbush species, recorded once by RD near Nkwanta, Oct 2004. Same comments as for previous species.

Other species listed by Dyer (1997) but recorded only in farmbush or open areas outside the reserve:

Plain-backed Pipit *Anthus leucophrys*. One seen in the Ankasa clearing outside the reserve by D&B. Still in this area in 2009 (new staff buildings).

White-throated Greenbul *Phyllastrephus albigularis*. Only one record, by MD, near Ankasa camp, in cultivated farmbush just outside the reserve (M. Dyer *in litt.*). This species is common in semi-evergreen forest, but is not normally found in farmbush, especially "cultivated". This record may have to be queried.

Bronze Mannikin *Spermestes cucullata*. Reported from just outside the GPR at Ankasa by D&B.

Magpie Mannikin *Spermestes fringilloides*. "A party of seven outside the GPR at Ankasa" (D&B).

4.2. Species in need of confirmation or rejected

Bat Hawk *Macheiramphus alcinus*. One seen briefly by RN in Apr 2009, probably this species (*per* NB).

Green Turaco *Tauraco persa*. One bird apparently seen in forest canopy near the Ankasa river by D&B. Not reported by any other observer at Ankasa. Extensive Atlas surveys have revealed this species indeed to be absent from SW Ghana, except along a thin coastal strip.

Senegal Coucal *Centropus senegalensis*. Records by D&B and RD are considered doubtful, in view of likely confusion with Blue-headed Coucal (see above).

Shelley's Eagle Owl *Bubo shelleyi*. One large eagle owl was seen flying across the new road by day by RN and MW in Dec 2008. A scream was heard by the same observers behind Nkwanta camp in May 2008; however, they were uncertain as to which immature eagle owl (Shelley's or Akun) this could be attributed. The voice of adult Shelley's is still unknown. Dyer (1997: 37) had written that this species "can be heard at night" at Nkwanta: this is based on an unidentified call which, when described to L. Holbech, was said by the latter to belong to Shelley's Eagle Owl (M. Dyer *in litt.*). However, the distinction between calls of immature *Bubo* species needs to be investigated further. In 2011, a large owl seen by day near Nkwanta and reported to us as a Shelley's Eagle Owl was, thanks to a photograph, re-identified as Fraser's. Thus we consider that the occurrence of this rare owl in Ankasa has not yet been established.

Pel's Fishing Owl *Scotopelia peli*. Mentioned by Dyer (1997: 37) as possible on the Ankasa river, while admitting that the species was "not yet officially on the Ankasa bird list". We know of no claimed record.

Mottled Spinetail *Telacanthura ussheri*. One reported from the Nkwanta area by D&B, apparently misplaced in Dyer's (1997) Table 1 under Nini-Suhien. In the forest zone this is a commensal species of villages outside forest. Best considered unconfirmed.

African Pygmy Kingfisher *Ceyx pictus*. Twice seen perched over the Suhien river by D&B, but this species is unlikely in the heart of primary forest. It is possible in farmbush outside forest and indeed was seen there in Dec 2009.

Black-and-white-casqued Hornbill *Bycanistes subcylindricus*. Singles reported from the Nkwanta area and from Nini-Suhien N.P. by D&B. Not easy to separate from *B. cylindricus* and as reported by no-one else,

best left indeterminate.

- Yellow-rumped Tinkerbird *Pogoniulus bilineatus*. There are records of this species by two observers (MD, RD) which we believe are misidentifications of *P. subsulphureus*: e.g. Dyer (1997: Appendix 10) supposedly recorded it from primary forest in Nini-Suhien N.P. but failed to note *P. subsulphureus* there. These two siblings are separable only on calls but have different ecology and distribution. In the rain forest zone our Atlas surveys have shown Yellow-rumped Tinkerbird to be absent, except along the coastal strip as far west as Cape Three Points, and there it is found in thickets in farmbush.
- Lyre-tailed Honeyguide *Melichneutes robustus*. A single reported seen at Nkwanta by D&B (Branscombe only, G. Dutson *in litt.*), but no-one has ever heard the distinctive display flight in the Ankasa area, and in the absence of identification details the record is best considered indeterminate. Branscombe also believed he heard the “trumpeting” display in Boi-Tano F.R.
- Cardinal Woodpecker *Dendropicos fuscescens*. A savanna species (marginally found in farmbush at the periphery of the forest zone) reported from a clearing near Ankasa by D&B. Our Atlas surveys have not found it in the rain forest zone of SW Ghana. In any case this was outside the reserve (although repeated by Dyer 1997, Table 1).
- African Pitta *Pitta angolensis*. There are two undated records from Ankasa R.R. by LH (Holbech 1996). Details (LH *in litt.* 2010) are of one heard in *Raphia* swamp forest on the Nkwanta-Ankasa road on a couple of occasions between 13-16 Dec 1993. As the display noise produced by Pittas in Ghana differs in pitch from those presented on commercial tapes (of the form in East Africa, as in Chappuis 2000), as the bird was not seen, evergreen rain forest is not typical habitat, and the bird does not normally display in the dry season but in the rains, this record is considered as doubtful.
- Fanti Saw-wing *Psolidoprocne obscura*. Listed by Ntiama-Baidu *et al.* (2001), but not found anywhere in the wet rain forest zone (Atlas surveys). This species breeds in the transition zone and on some rivers in the savanna belt.
- Western Wattled Cuckoo-shrike *Lobotos lobatus*. Listed with a “?” by Ntiama-Baidu *et al.* (2001), said to be an “unconfirmed sighting” (p. 375), details of which have never been published. Grimes (1987) wrote “an unconfirmed sighting during 1970s (M. Macdonald)”; however, Collar & Stuart (1985) had made it clear that Macdonald’s searches for the species were unsuccessful, and M. Macdonald (*in litt.* 2005) confirmed that he knows of no such record.
- Simple Leaflove *Chlorocichla simplex*. A farmbush species, possibly seen near Nkwanta by D&B in 1988, but the same authors report it from a mixed party in primary forest in Nini-Suhien N.P., which is considered impossible. Noted in farmbush outside the reserve near Ankasa gate (e.g. Dec 2009).
- Ashy Flycatcher *Muscicapa caerulescens*. Reportedly seen near the Ankasa river and Nkwanta by D&B, and once by AH. Identification of grey flycatchers can be very tricky, and as our more extensive surveys have shown this species to be absent from the rain forest zone except on the periphery, we consider these records as doubtful.
- Lagden’s Bush Shrike *Malaconotus lagdeni*. A large bush shrike with yellow underparts and a heavy black bill was seen twice in the canopy in Nini-Suhien N.P. by D&B (c. Aug-Sep 1988). Strangely, the head looked jet black and not grey; the upperparts were not seen, and details noted are not sufficient to confirm the identity as this rare species.
- Cassin’s Malimbe *Malimbus cassini*. Sightings claimed of a male at Ankasa and a female in Nini-Suhien by D&B cannot be accepted. This species does not occur in West Africa, cf. Dowsett *et al.* (2008).

5. OBSERVATIONS ON LARGER MAMMALS

The most conspicuous noise coming from the rain forest at night is that produced by the high numbers of Tree Hyrax *Dendrohyrax dorsalis*. Demidoff’s Galago *Galagoides demidoff* is common and was heard everywhere; December was also evidently the full calling season of Palm Civet *Nandinia binotata*, its mournful calls being heard every night around Nkwanta and elsewhere, but not at Ankasa gate. Also heard in August.

There were several fresh tracks of Elephants *Loxodonta africana* around the paths between Nkwanta and the Suhien river (2004); one or more came close to our tent near the river. Also very fresh tracks and drop-

pings along the Elubo trail in Dec 2009.

Several groups of *Cercopithecus* monkey were heard near Nkwanta and the Suhien river (2004), but proved rather shy. They were (on calls) *C. campbelli*. In 2009-10, several groups of Campbell's and Spot-nosed Monkeys *C. petaurista* were seen and heard along the Elubo trail and near Exploration camp. One Spot-nosed was also seen calling in a large tree on the edge of the transmission line just north of Nkwanta (Dec 2009).

One attraction of Nkwanta camp in 2004 was the presence of a tame pair of Maxwell's Duiker *Cephalophus maxwelli*, who followed us into the forest for c. one km. We were told they were of completely wild origin. This species was seen a few times in 2009-10, especially along the Elubo trail. One individual fell into a pond in forest and swam to the edge after some struggle; it looked exhausted. A heavier duiker was heard running away on a couple of occasions but was not identified to species. Fresh tracks of Bongo *Boocercus euryceros* were seen in forest just north-east of Nkwanta in Dec 2009.

6. CONSERVATION ASPECTS

Ankasa is of course very important as the only wildlife reserve that preserves a fairly intact block of wet evergreen rain forest in Ghana. From a habitat perspective the conservation status of the forests of Ankasa R.R. and Nini-Suhien N.P. has been rated respectively as good and excellent (Hawthorne & Abu-Juam 1995). As discussed above this type of forest is optimum habitat for some Globally-threatened bird species (especially the bulbuls *Criniger olivaceus* and *Bleda eximius*, the illadopsis *Illadopsis rufescens*). The presence of several large hornbills (some of which are common) and the important numbers of Great Blue Turacos suggest that hunting pressure has not reached the high levels observed, for instance, at Bia, where all of these species have been virtually eliminated. Crested Guinea-fowls appear to be common still and there are a few recent records of White-breasted Guinea-fowl. The large swamps are a relatively safe heaven for Hartlaub's Duck, generally threatened in SW Ghana by hunting and deforestation. Two *Cercopithecus* monkeys, small duikers and Elephants are locally common (see above).

Overall we consider the conservation status of the forest avifauna is adequate. The level of protection of Ankasa's wildlife is certainly superior to that in Bia, as also shown by Gatti for primates (Gatti n.d.).

The presence of extensive plantations of exotic Chinese bamboos *Bambusa vulgaris* at Nkwanta is nevertheless regrettable: this ecological desert should be eradicated.

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APPENDIX 1. ITINERARY AND TIMETABLE

2004-05:

- December 27: midday arrival at Park headquarters (Elubo), meeting with Park Manager and staff. Set up camp on the edge of **Nkwanta**; local observations evening;
- 28: full morning along track from Nkwanta to Ankasa (nearly 8 km); evening along **Ankasa river**;
- 29: after one hour along Nkwanta track, move with porters to **Suhien river** at boundary of National Park; shower and storm in the afternoon;
- 30: full morning observing birds in primary forest between Suhien river and transmission line (as far as the dam); evening near Suhien river;
- 31: transfer back to Nkwanta camp, brief observations in forest on the way; evening around Nkwanta;
- January 1: leave Nkwanta after one hour's observations in early morning.

2009:

- December 16: visit of Elubo office in afternoon, camp in **Nkwanta** camp; after local observations on morning of 17th, move to **Exploration camp** 1 km away, at the junction of the tracks to Ankasa gate and Elubo;
- 17-23: based at Exploration camp. From 18 to 21 Dec RJD did some mist-netting of birds in forest around the stream flowing behind the Exploration camp ("Education trail"), as well as at the start of the Elubo track. Observations (mainly FDL) on paths behind Nkwanta camp, Education trail, track towards Elubo, road between Nkwanta and Exploration, and new road north-east towards the Suhien river;
- 23-26: move to **Ankasa gate (camp)** for the last few days. RJD sick (malaria); short walks (FDL) along Ankasa river (including Lophira trail) and track from Ankasa gate towards Nkwanta.

2010:

August 17: visit of Elubo office in afternoon, set up camp at **Exploration camp**;

18-21: netting by RJD as in Dec 2009, observations by FDL around Exploration camp, along Elubo trail, and along new road north-east of Nkwanta;

20: midday move to **Ankasa camp**; observations mainly on mornings of 21-22 (downpour rest of 21st) along road towards Nkwanta and Lophira trail; limited amount of mist-netting by RJD;

22: leave midday.

APPENDIX 2. POTENTIAL OF ANKASA FOR BIRD ECOTOURISM

The potential of the Ankasa Resource Reserve for bird ecotourism is evident and has already been recognized by a small but steady flow of visitors. The main restrictions are the distance from Accra and the lack of decent accommodation on the spot. Nkwanta camp (8 km inside the reserve) used to be easily reached from the entrance gate at Ankasa by the old logging road (maintained as a drivable track), but it has been damaged and rendered locally impassable (except for 4-wheel drive vehicles) by the traffic of construction lorries for the new road in 2008-10. Walking along this track for bird-watching can be very productive and somewhat less frustrating for some than when using paths in closed forest, but again some sections of this road are now under water or a sea of mud and cannot be used. The undamaged track from the Exploration camp near Nkwanta towards Elubo on the western side is in fact a better alternative, as also the start of the new road north of Nkwanta. The latter also gives access to several large swamps.

The avifauna at Ankasa is sufficiently different from that of other protected forest areas as to warrant a detour. It is only at Ankasa that birders will have a very good chance of finding several uncommon or localized species of primary forest such as Dusky Long-tailed Cuckoo *Cercococcyx mechowi*, Ansorge's Greenbul *Andropadus ansorgei*, Yellow-throated Greenbul *Criniger olivaceus* and Rufous-winged Illadopsis *Illadopsis rufescens* in a short visit. The accessibility of forest swamps also provides good opportunities for seeing the rare Hartlaub's Duck *Pteronetta hartlaubi*.

The standard of accommodation at Nkwanta and Exploration camp has unfortunately deteriorated. The four small double bedrooms at Nkwanta had in any case not been planned terribly well: the bedrooms are separated by thin bamboo partitions (not a good protection against the noise of close neighbours), and are fully exposed to the midday sun, so that luggage and food reserves get seriously heated. Exploration camp has several simple rooms with bunk beds, running water and some large sitting areas but it has not been maintained; it should ideally be used by school groups, but this is a rare event. The Wildlife Division did not take the opportunity of upgrading accommodation facilities with the latest European-funded PADP project (2006-2009), as it considers that this should be left to private tenders. Unfortunately, the small number of visitors is unlikely to justify or encourage a private venture, and in the meantime tourism is not likely to be boosted by the local conditions.

**CHECKLIST OF THE BIRDS OF ANKASA RESOURCE RESERVE AND
NINI-SUHIEN NATIONAL PARK**

Compiled by R.J. Dowsett & F. Dowsett-Lemaire (2011) (e-mail: Dowsett@aol.com)

The English names used generally follow the field guide by Borrow & Demey (2001, 2004. *Birds of Western Africa*. London: Helm). Abbreviations used: Res. = Resident; PM = Palearctic (Eurasian) migrant; AM = Intra-African migrant, Irreg. = Irregular visitor. The status of many species is poorly known, as we do not have reliable observations for all times of year.

Species	Status	Observations
White-crested Tiger Heron <i>Tigriornis leucolopha</i>	Res	
Dwarf Bittern <i>Ixobrychus sturmii</i>	AM	
Green-backed Heron <i>Butorides striata</i>	Res	
Great Egret <i>Egretta alba</i>	PM (vagrant)	
Grey Heron <i>Ardea cinerea</i>	Res	
Spot-breasted Ibis <i>Bostrychia rara</i>	Res	
Hartlaub's Duck <i>Pteronetta hartlaubii</i>	Res	
African Cuckoo Hawk <i>Aviceda cuculoides</i>	Res	
European Honey Buzzard <i>Pernis apivorus</i>	PM	
Palm-nut Vulture <i>Gypohierax angolensis</i>	Res	
Hooded Vulture <i>Necrosyrtes monachus</i>	Irreg	
Congo Serpent Eagle <i>Dryotriorchis spectabilis</i>	Res	
African Harrier Hawk (Gymnogene) <i>Polyboroides typus</i>	Res	
Black Sparrowhawk <i>Accipiter melanoleucus</i>	Res	
Red-thighed Sparrowhawk <i>Accipiter erythropus</i>	Res	
African Goshawk <i>Accipiter tachiro</i>	Res	
Long-tailed Hawk <i>Urotriorchis macrourus</i>	Res	
Red-necked Buzzard <i>Buteo auguralis</i>	Irreg	
Cassin's Hawk Eagle <i>Spizaetus africanus</i>	Res	
Ayres's Hawk Eagle <i>Hiraaetus ayresii</i>	Res (rare)	
Crowned Eagle <i>Stephanoaetus coronatus</i>	Res	
Latham's Forest Francolin <i>Francolinus lathamii</i>	Res	
Ahanta Francolin <i>Francolinus ahantensis</i>	Res	
White-breasted Guineafowl <i>Agelastes meleagrides</i>	Res (rare)	
Crested Guineafowl <i>Guttera pucherani</i>	Res	
Nkulengu Rail <i>Himantornis haematopus</i>	Res	
Grey-throated Rail <i>Canirallus oculus</i>	Res	
White-spotted Flufftail <i>Sarothrura pulchra</i>	Res	
Black Crake <i>Amaurornis flavirostra</i>	Res	
African Finfoot <i>Podica senegalensis</i>	Res	
African Jacana <i>Actophilornis africanus</i>	Res	
Afep Pigeon <i>Columba unicincta</i>	Res (rare)	
Western Bronze-naped Pigeon <i>Columba iriditorques</i>	Res	
Blue-spotted Wood Dove <i>Turtur afer</i>	Res	
Tambourine Dove <i>Turtur tympanistria</i>	Res	
Blue-headed Wood Dove <i>Turtur brehmeri</i>	Res	
African Green Pigeon <i>Treron calvus</i>	Res	
Grey Parrot <i>Psittacus erithacus</i>	Res	
Yellow-billed Turaco <i>Tauraco macrorhynchus</i>	Res	
Great Blue Turaco <i>Corythaëola cristata</i>	Res	
Red-chested Cuckoo <i>Cuculus solitarius</i>	Res (rare)	

Species	Status	Observations
Black Cuckoo <i>Cuculus clamorus</i>	Res	
Dusky Long-tailed Cuckoo <i>Cercococcyx mehowi</i>	Res	
Olive Long-tailed Cuckoo <i>Cercococcyx olivinus</i>	Res	
African Emerald Cuckoo <i>Chrysococcyx cupreus</i>	Res	
Yellow-throated Cuckoo <i>Chrysococcyx flavigularis</i>	Res	
Klaas's Cuckoo <i>Chrysococcyx klaas</i>	Res	
Yellowbill (Green Coucal) <i>Ceuthmochares aereus</i>	Res	
Black-throated Coucal <i>Centropus leucogaster</i>	Res	
Blue-headed Coucal <i>Centropus monachus</i>	Res	
Sandy Scops Owl <i>Otus icterorhynchus</i>	Res	
Fraser's Eagle Owl <i>Bubo poensis</i>	Res	
Akun Eagle Owl <i>Bubo leucostictus</i>	Res	
Rufous Fishing Owl <i>Scotopelia ussheri</i>	Res	
Red-chested Owlet <i>Glaucidium tephronotum</i>	Res	
African Wood Owl <i>Strix woodfordii</i>	Res	
Brown Nightjar <i>Caprimulgus binotatus</i>	Res (rare)	
Black Spinetail <i>Telacanthura melanopygia</i>	Res	
Sabine's Spinetail <i>Rhaphidura sabini</i>	Res	
Cassin's Spinetail <i>Neafrapus cassini</i>	Res	
African Palm Swift <i>Cypsiurus parvus</i>	Irreg	
Common (European) Swift <i>Apus apus</i>	PM	
Little Swift <i>Apus affinis</i>	Irreg	
Bates's Swift <i>Apus batesi</i>	Res	
Narina's Trogon <i>Apaloderma narina</i>	Res	
Shining-blue Kingfisher <i>Alcedo quadibrachys</i>	Res	
White-bellied Kingfisher <i>Alcedo leucogaster</i>	Res	
African Dwarf Kingfisher <i>Ceyx lecontei</i>	Res	
Chocolate-backed Kingfisher <i>Halcyon badia</i>	Res	
Blue-breasted Kingfisher <i>Halcyon malimbica</i>	Res	
Woodland Kingfisher <i>Halcyon senegalensis</i>	Res	
Giant Kingfisher <i>Megaceryle maxima</i>	Res	
Pied Kingfisher <i>Ceryle rudis</i>	Vagrant	
Blue-headed Bee-eater <i>Merops muelleri</i>	Res	
Black Bee-eater <i>Merops gularis</i>	Res	
White-throated Bee-eater <i>Merops albicollis</i>	AM	
Blue-throated Roller <i>Eurystomus gularis</i>	Res	
White-headed Wood Hoopoe <i>Phoeniculus bollei</i>	Res	
Forest Wood Hoopoe <i>Phoeniculus castaneiceps</i>	Res	
White-crested Hornbill <i>Tropicranus albocristatus</i>	Res	
Black Dwarf Hornbill <i>Tockus hartlaubi</i>	Res	
Red-billed Dwarf Hornbill <i>Tockus camurus</i>	Res	
African Pied Hornbill <i>Tockus fasciatus</i>	Res	
Piping Hornbill <i>Bycanistes fistulator</i>	Res	
Brown-cheeked Hornbill <i>Bycanistes cylindricus</i>	Res	
Black-casqued Hornbill <i>Ceratogymna atrata</i>	Res	
Yellow-casqued Hornbill <i>Ceratogymna elata</i>	Res	
Naked-faced Barbet <i>Gymnobucco calvus</i>	Res	
Bristle-nosed Barbet <i>Gymnobucco peli</i>	Res	
Yellow-spotted Barbet <i>Buccanodon duchailui</i>	Res	
Speckled Tinkerbird <i>Pogoniulus scolopaceus</i>	Res	
Yellow-throated Tinkerbird <i>Pogoniulus subsulphureus</i>	Res	
Red-rumped Tinkerbird <i>Pogoniulus atroflavus</i>	Res	
Hairy-breasted Barbet <i>Tricholaema hirsuta</i>	Res	
Yellow-billed Barbet <i>Trachyphonus purpuratus</i>	Res	

Species	Status	Observations
Cassin's Honeybird <i>Prodotiscus insignis</i>	Res	
Spotted Honeyguide <i>Indicator maculatus</i>	Res	
Lesser (Thick-billed) Honeyguide <i>Indicator minor conirostris</i>	Res	
Least Honeyguide <i>Indicator exilis</i>	Res	
Willcocks's Honeyguide <i>Indicator willcocksii</i>	Res	
Little Green Woodpecker <i>Campethera maculosa</i>	Res	
Buff-spotted Woodpecker <i>Campethera nivosa</i>	Res	
Brown-eared Woodpecker <i>Campethera caroli</i>	Res	
Gabon Woodpecker <i>Dendropicos gabonensis</i>	Res	
Fire-bellied Woodpecker <i>Thripias pyrrhogaster</i>	Res	
Rufous-sided Broadbill <i>Smithornis rufolateralis</i>	Res	
Square-tailed Saw-wing <i>Psalidoprocne nitens</i>	Res	
White-throated Blue Swallow <i>Hirundo nigrita</i>	Res (rare).....	
Barn (European) Swallow <i>Hirundo rustica</i>	PM	
Blue Cuckoo-shrike <i>Coracina azurea</i>	Res	
Little Greenbul <i>Andropadus virens</i>	Res	
Little Grey Greenbul <i>Andropadus gracilis</i>	Res	
Ansorge's Greenbul <i>Andropadus ansorgei</i>	Res	
Cameroon Sombre Greenbul <i>Andropadus curvirostris</i>	Res	
Slender-billed Greenbul <i>Andropadus gracilirostris</i>	Res	
Yellow-whiskered Greenbul <i>Andropadus latirostris</i>	Res	
Golden Greenbul <i>Calyptocichla serina</i>	Res	
Honeyguide Greenbul <i>Baeopogon indicator</i>	Res	
Spotted Greenbul <i>Ixonotus guttatus</i>	Res	
Swamp Palm Bulbul <i>Thescelocichla leucopleura</i>	Res	
Icterine Greenbul <i>Phyllastrephus icterinus</i>	Res	
Red-tailed Bristlebill <i>Bleda syndactylus</i>	Res	
Green-tailed Bristlebill <i>Bleda eximius</i>	Res	
Grey-headed Bristlebill <i>Bleda canicapillus</i>	Res	
Western Bearded Greenbul <i>Criniger barbatus</i>	Res	
Red-tailed Greenbul <i>Criniger calurus</i>	Res	
Yellow-bearded Greenbul <i>Criniger olivaceus</i>	Res	
Common Bulbul <i>Pycnonotus barbatus</i>	Res	
Western Nicator <i>Nicator chloris</i>	Res	
White-tailed Ant Thrush <i>Neocossyphus poensis</i>	Res	
Finsch's (Rufous) Flycatcher Thrush <i>Stizorhina fraseri finschi</i>	Res	
Grey Ground Thrush <i>Zoothera princei</i>	Res (rare).....	
Fire-crested (White-tailed) Alethe <i>Alethe diademata</i>	Res	
Brown-chested Alethe <i>Alethe poliocephala</i>	Res	
Forest Robin <i>Stiphrornis erythrothorax</i>	Res	
Lowland Akalat <i>Sheppardia cyornithopsis</i>	Res	
Forest Scrub Robin <i>Erythropgyia leucosticta</i>	Res (rare).....	
Rufous-crowned Eremomela <i>Eremomela badiceps</i>	Res	
Green Crombec <i>Sylvietta virens</i>	Res	
Lemon-bellied Crombec <i>Sylvietta denti</i>	Res	
Grey Longbill <i>Macrosphenus concolor</i>	Res	
Kemp's Longbill <i>Macrosphenus kempii</i>	Res (rare).....	
Wood Warbler <i>Phylloscopus sibilatrix</i>	PM	
Green Hylia <i>Hylia prasina</i>	Res	
Black-capped Apalis <i>Apalis nigriceps</i>	Res	
Sharpe's Apalis <i>Apalis sharpii</i>	Res	
Yellow-browed Camaroptera <i>Camaroptera superciliaris</i>	Res	
Olive-green Camaroptera <i>Camaroptera chloronota</i>	Res	
Fraser's Forest Flycatcher <i>Fraseria ocreata</i>	Res	

Species	Status	Observations
White-browed Forest Flycatcher <i>Fraseria cinerascens</i>	Res	
Olivaceous Flycatcher <i>Muscicapa olivascens</i>	Res	
Cassin's Flycatcher <i>Muscicapa cassini</i>	Res	
Little Grey Flycatcher <i>Muscicapa epulata</i>	Res	
Dusky-blue Flycatcher <i>Muscicapa comitata</i>	Res	
Ussher's Flycatcher <i>Muscicapa ussheri</i>	Res	
Lead-coloured Flycatcher <i>Myioparus plumbeus</i>	Res	
Grey-throated Flycatcher <i>Myioparus griseigularis</i>	Res	
Shrike-Flycatcher <i>Megabyas flammulatus</i>	Res (rare)	
Bioko Batis <i>Batis poensis</i>	Res (rare)	
Chestnut Wattle-eye <i>Dyaphorophya castanea</i>	Res	
Chestnut-capped Flycatcher <i>Erythrocercus mccallii</i>	Res (rare)	
Dusky Crested Flycatcher <i>Elminia nigromitrata</i>	Res	
Blue-headed Crested Flycatcher <i>Trochocercus nitens</i>	Res	
Red-bellied Paradise Flycatcher <i>Terpsiphone rufiventer</i>	Res	
Brown Illadopsis <i>Illadopsis fulvescens</i>	Res	
Pale-breasted Illadopsis <i>Illadopsis rufipennis</i>	Res	
Blackcap Illadopsis <i>Illadopsis cleaveri</i>	Res	
Rufous-winged Illadopsis <i>Illadopsis rufescens</i>	Res	
Tit-hylia <i>Pholidornis ruschiae</i>	Res	
Forest Penduline Tit <i>Anthoscopus flavifrons</i>	Res	
Fraser's Sunbird <i>Deleornis fraseri</i>	Res	
Green (Yellow-chinned) Sunbird <i>Anthreptes rectirostris</i>	Res	
Collared Sunbird <i>Anthreptes collaris</i>	Res	
Little Green Sunbird <i>Nectarinia seimundi</i>	Res	
Olive Sunbird <i>Nectarinia olivacea</i>	Res	
Blue-throated Brown Sunbird <i>Nectarinia cyanolaema</i>	Res	
Buff-throated Sunbird <i>Nectarinia adelberti</i>	Res	
Olive-bellied Sunbird <i>Nectarinia chloropygia</i>	Res	
Tiny Sunbird <i>Nectarinia minulla</i>	Res	
Johanna's Sunbird <i>Nectarinia johannae</i>	Res	
Superb Sunbird <i>Nectarinia superba</i>	Res	
Western Black-headed Oriole <i>Oriolus brachyrhynchus</i>	Res	
Black-winged Oriole <i>Oriolus nigripennis</i>	Res	
Sabine's Puffback <i>Dryoscopus sabini</i>	Res	
Many-coloured Bush Shrike <i>Malaconotus multicolor</i>	Res (rare)	
Red-billed Helmet Shrike <i>Prionops caniceps</i>	Res	
Shining Drongo <i>Dicrurus atripennis</i>	Res	
Fork-tailed Drongo <i>Dicrurus adsimilis</i>	Res	
Forest Chestnut-winged Starling <i>Onychognathus fulgidus</i>	Res	
Copper-tailed Glossy Starling <i>Lamprotornis cupreocauda</i>	Res	
Splendid Glossy Starling <i>Lamprotornis splendidus</i>	Res	
Yellow-mantled Weaver <i>Ploceus tricolor</i>	Res	
Maxwell's Black Weaver <i>Ploceus albinucha</i>	Res	
Blue-billed Malimbe <i>Malimbus nitens</i>	Res	
Crested Malimbe <i>Malimbus malimbicus</i>	Res	
Red-vented Malimbe <i>Malimbus scutatus</i>	Res	
Red-headed Malimbe <i>Malimbus rubricollis</i>	Res	
Red-fronted Antpecker <i>Parmoptila rubrifrons</i>	Res	
Grey-headed Negrofinch <i>Nigrita canicapillus</i>	Res	
Chestnut-breasted Negrofinch <i>Nigrita bicolor</i>	Res	
White-breasted Negrofinch <i>Nigrita fusconotus</i>	Res	
Black-bellied Seedcracker <i>Pyrenestes ostrinus</i>	Res	
Western Bluebill <i>Spermophaga haematina</i>	Res	

Species	Status	Observations
Green Twinspot <i>Mandingoa nitidula</i>	Res (rare).....	
Orange-cheeked Waxbill <i>Estrilda melpoda</i>	Irreg.....	
Black-and-white Mannikin <i>Spermestes bicolor</i>	Irreg.....	
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Particular attention should be paid to the following species, which have not yet been confirmed to occur: Shelley’s Eagle Owl *Bubo shelleyi*, Black-and-white-casqued Hornbill *Bycanistes subcylindricus*, Lyre-tailed Honeyguide *Melichneutes robustus*, Western Wattled Cuckoo-shrike *Lobotos lobatus* and Lagden’s Bush Shrike *Malaconotus lagdeni*. For some marginal species occurring just outside the reserve, see pp. 21-22.